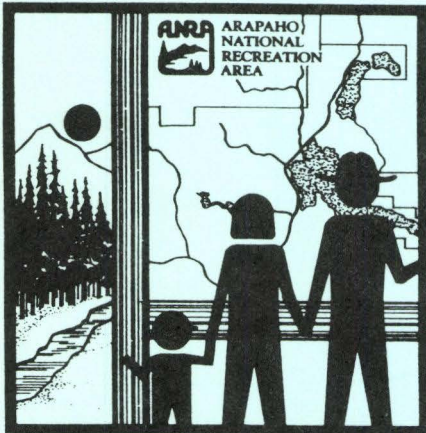


Financing the Operation and Maintenance of an Aquatic Weed Harvester on Shadow Mountain Lake

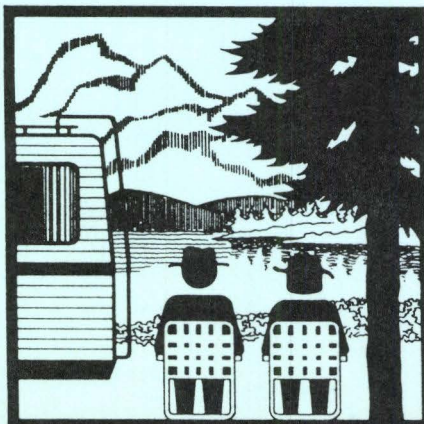
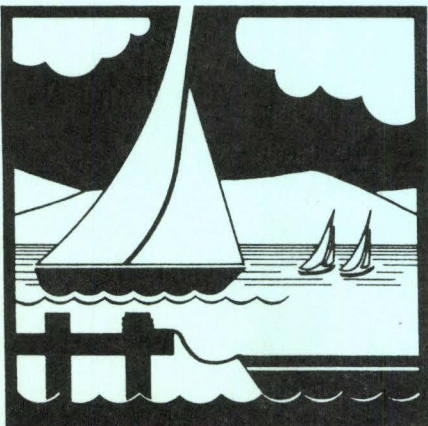


Arapaho National Recreation Area
Sulphur Ranger District
Arapaho and Roosevelt National Forests
Colorado



Richard P. Caissie
District Recreation and Resources Staff

Clemson Class of 1993



**Financing the Operation and Maintenance
of an
Aquatic Weed Harvester
on
Shadow Mountain Lake**

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ABSTRACT

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Title: Financing the Operation and Maintenance of an Aquatic Weed Harvester on Shadow Mountain Lake

Abstract: This paper describes a method to fund an aquatic weed harvester on Shadow Mountain Lake within the Arapaho National Recreation Area in Colorado. The Bureau of Reclamation bought the weed harvester for the Forest Service to use on the lake, but in an age of declining budgets the Forest Service does not have the funds to operate the harvester. In order to operate the harvester the Forest Service is building a partnership with the Colorado Division of Wildlife, Grand County, a homeowner's association, and a local lake protection association. The Forest Service expects that, as the weed harvester begins to operate and demonstrate its capabilities, that recreationists will donate funds for the harvester's operation and that several other agencies and organizations will join the partnership.

Keywords: Lake Management, Aquatic Plants, Recreation Partnerships, Aquatic Weed Harvesters.

EXECUTIVE SUMMARY

Title: Financing the Operation and Maintenance of an Aquatic Weed Harvester on Shadow Mountain Lake

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Summary:

The Arapaho National Recreation Area (ANRA) is within the Sulphur Ranger District, Arapaho and Roosevelt National Forests, Grand County, Colorado. The ANRA, located in north central Colorado and bordered by Rocky Mountain National Park and the Continental Divide, contains five reservoirs (Shadow Mountain, Granby, Willow Creek, Meadow Creek, and Monarch) and is adjacent to a sixth lake (Grand Lake).

Shadow Mountain Lake was created and is used as a canal to carry water pumped from Lake Granby to Grand Lake and through the Alva B. Adams Tunnel to the Front Range. The shallow, 1,356 acre lake is now a major recreation reservoir heavily used for boating, fishing, water skiing, birdwatching, and as an aesthetic backdrop for shoreline summer homes and recreation activities.

Shadow Mountain Lake has a severe aquatic weed problem, mostly *Elodea canadensis*, that impairs all forms of recreation except hiking, hunting and watchable wildlife. At least 600 acres of the 1300 acre lake were affected by weeds. Public Law 95-450, which created the ANRA in 1978, states that it will be administered "in such a manner as will best provide for the control of aquatic vegetation in the streams, lakes, and reservoirs within the recreation area." The Forest Service was the lead agency for implementing two lake drawdowns, one in 1990 and another in 1991, which reduced the weeds within the lake. Although successful at controlling the weeds within the lake, the drawdowns were costly, reduced waterfowl habitat, and required extensive cooperation between several government agencies.

As a result of lobbying efforts from local citizens, the Forest Service acquired a \$75,000.00 aquatic weed harvester in 1992. The Sulphur Ranger District does not have the funds to operate the weed harvester without cutting back on other recreation services.

Purpose of the Project

This document describes a proposed plan for financing the operation of an aquatic weed harvester on Shadow Mountain Lake beginning in the summer of 1994. The aquatic weed harvester will be used to manage the aquatic vegetation (aquatic macrophytes) within the lake. The objectives of this project are to:

- Finance the operation, maintenance, and future replacement of the harvester in a way that does not detrimentally impact other Sulphur Ranger District recreation programs.

- Encourage user participation in the planning, financing, and operation of the harvester so they will have a feeling of ownership in the harvester's operation and success.
- Manage, not eliminate, weeds on Shadow Mountain Lake using the aquatic weed harvester, so that waterfowl habitat is preserved while boating is improved.
- Increase lake user satisfaction.

The desired outcome is the harvester operating on the lake in the summer of 1994 with a partnership to finance the operation and maintenance of the weed harvester.

Public Involvement

In 1992, after learning it would acquire an aquatic weed harvester, the Forest Service took steps to involve the public in the financing and operation of the harvester. A concerted effort was made to involve recreationists and all Federal, State, and Local agencies who have an interest in Shadow Mountain Lake. Numerous articles and editorial cartoons appeared in the local newspaper, *The Ski-Hi News*, about the weeds in Shadow Mountain Lake. Recent articles demanded that the Forest Service foot the entire bill to operate the harvester.

Two public meetings were held in January, 1994. The first, a Working Group meeting of key interested parties, worked up an outline for a partnership to operate and finance the weed harvester. The second meeting, open to the public, was designed as an information dissemination meeting to inform the public of what the Working Group came up with and to ask for comments. The meetings were followed by news releases and articles in the local newspaper.

Estimated Costs

Using hourly cost estimates provided by Aquarius Systems of North Prairie, WI, the Forest Service developed estimated operation costs for the harvester, both for a long and a short season.

- The operating cost for a 16-week season is approximately **\$19,710**, plus depreciation. Assuming the weed harvester can harvest up to four acres per day, with two acres per day being a reasonable average, then approximately 128 acres (about 21 percent of the lake surface susceptible to weeds) can be harvested in one year at a cost of **\$153.98** per acre plus depreciation.
- The operating cost for a 10-week season is approximately **\$13,347**, plus depreciation. Assuming the weed harvester can harvest up to four acres per day, with two acres per day being a reasonable average, then approximately 80 acres (about 13 percent of the lake surface susceptible to weeds) can be harvested in one year at a cost of **\$166.84** per acre plus depreciation.

Operating the harvester for 16 weeks per summer will cost approximately \$6,363.00 per season more than operating the harvester for 10 weeks. Operating for a 16-week season will cost \$12.86 per harvested acre (without depreciation) less than the cost per acre for a 10-week season, though, because of economy of scale.

Preferred Financing Alternative

During the Working Group meeting in January, 1994, several alternatives for financing the weed harvester were discussed. The group selected one alternative as preferred. The group worked under the assumption that the weed harvester will operate on the lake if funded. The group decided to recommend the preferred

alternative, but not to discard some of the other alternatives until it could be determined if the preferred alternative will work.

The primary source of funds will come from the Forest Service and donations. The Forest Service will supply \$3,000 of the yearly budget for the harvester, and will work on getting additional funds in future years.

Donation boxes will be placed at the boat ramps and marinas. Donations will also be accepted at the Forest Service's Granby office and at the campgrounds. Those making donations will receive a decal they can display on their boat to advertise that they support the weed harvester. Grand Lake Estates Homeowner's Association will pay for the decals. Northern Colorado River Lakes Protection Association will cover the cost of advertising for donations. Grand County will act as the depository for donated funds. The Colorado Division of Wildlife (CDOW) will help with the operation and maintenance costs.

Depreciation will be ignored. When the time comes to replace the harvester the community will lobby Congress and hope they can convince Congress to buy another harvester.

All costs for the harvester's operation and maintenance above the \$3,000 per year the Forest Service is supplying, along with the additional \$900.00 the CDOW is providing in 1994, will come from donations. Once these funds plus donations run out, the weed harvester will be put away for the year unless a significant amount of additional donations are received. After 1994, if there are no significant donations or matching funds from other organizations, the harvester will not operate once the \$3,000.00 provided by the Forest Service is spent.

Discussion

Because the majority of the recreation activity connected with Shadow Mountain Lake involves water, the aquatic weeds within the lake have a major affect on recreation and the quality of the recreation experience. If left untreated, the weeds will again clog 60 percent of the lake. Operating the weed harvester will prevent this from happening, at least over a large part of the lake.

The problem is paying for the harvester's operation.

The private land adjacent to Shadow Mountain Lake is close to 100 percent developed. Many businesses, both on or near the lake, depend to some extent on the tourist traffic generated by the lake. But many land owners and businesses expect the taxpayers, through the Forest Service, to pay for managing the weeds at no cost to themselves. Many others do not want the government to pay for the weed harvester's operation; they want to see those who benefit from the harvester pay for its operation.

Even though Public Law 94-450 states that the Forest Service will "control (the) aquatic vegetation" within the lake, with its decreasing budget it is unlikely that the Forest Service will be able to finance the weed harvester's operation without outside financial help.

Charging fees within the ANRA is an option. The Forest Service can charge an entrance fee, or a parking, boat ramp or lake user fee, and will get 65 percent of the fee back to the ANRA for administration costs and other uses. Several Forest Service administered lakes, especially in the southeast, do charge parking fees at boat ramps.

The Forest Service is considering using a concessionaire to operate the weed harvester.

RBI, a lake maintenance organization, contacted the Sulphur Ranger District about leasing the harvester. RBI could use the harvested weeds for a prototype project where Elodea (weeds) are used to help purify water in sewage treatment plants. Although Shadow Mountain Lake would have priority, they also want to use the

harvester on other lakes during the summer season. RBI claims that they can harvest up to 0.5 acres of weeds an hour; it may be possible to use the weed harvester on other lakes for part of the summer and still treat Shadow Mountain Lake. It may be possible for RBI to operate the harvester on the lake and make a profit with the harvested weeds. Steve Smith of RBI said the Sulphur Ranger District has the only harvester in Colorado.

There may be a market for the harvested weeds. Besides the experimental use that RBI has for the weeds, they are a great fertilizer. Both RBI and Paul Harrington, a local landscaper, have expressed an interest in them.

For 1994, though, the general consensus is to finance the weed harvester with donations and see what happens. Several organizations have agreed to help fund the weed harvester's operation. The Forest Service has \$3,000.00 for the harvester's operation and maintenance. The CDOW will provide \$900.00 towards the harvester's operation in 1994. Grand Lake Estates Homeowner's Association is providing \$550.00 towards the purchase of 1,000 decals -- the decals can be displayed on a boat by those who donate money or services towards the weed harvester's operation. Northern Colorado River Lakes Protection Association will donate up to \$500.00 for advertising to solicit donations for the weed harvester. Grand County will act as the agent to receive the donations, and will help with disposal of the weeds.

There are other ways people can help reduce the harvester's operation and maintenance cost. People can:

- Provide a driver and vehicle to tow the trailer.
- Provide fuel for the truck and harvester.
- Help with maintenance, repairs and parts.
- Provide areas on their property for weed disposal.
- Provide a place out of the weather for the harvester's winter storage.

As more partners help with costs, it will become easier for the Forest Service to request and receive grant money for the harvester's operation. Many grants require matching funds from other sources. In some cases, it is easier to receive a grant if the organization putting in the request is not part of the Federal Government, although the Federal Government can be a partner.

Later in 1994, after demonstrating what the aquatic weed harvester can accomplish and how extensive the weed problem is, more organizations may participate in the harvester's financing. As organizations come forward, the Forest Service will set up a partnership, probably with Grand County acting as the main agent. The partnership will be in a good position to request grants from several sources to help with the harvester's financing. As an example, the partnership could qualify for a Coors Pure Water 2000 grant. In 1995, if the Town of Grand Lake, Grand Lake Metropolitan Recreation District, Three Lakes Water and Sanitation District, and several other organizations join the partnership, receiving a grant might become a reality.

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A. Introduction

Location

The Arapaho National Recreation Area (ANRA) is within the Sulphur Ranger District, Arapaho and Roosevelt National Forests, Grand County, Colorado (Map, Page 2). The ANRA, located in north central Colorado and bordered by Rocky Mountain National Park and the Continental Divide, contains five reservoirs (Shadow Mountain, Granby, Willow Creek, Meadow Creek, and Monarch) and is adjacent to a sixth lake (Grand Lake). Two of the lakes are affected by this project (Map, Page 3).

The ANRA was originally administered by the National Park Service as the Shadow Mountain National Recreation Area. In 1978 Public Law 95-450 expanded the original National Recreation Area, turned over its administration to the USDA Forest Service, and changed its name to the Arapaho National Recreation Area. The law also directed the Forest Service to administer it "in such a manner as will best provide for the control of aquatic vegetation in the streams, lakes, and reservoirs within the recreation area" (Appendix A of Appendix I).

Shadow Mountain Lake was created and is used as a canal to carry water pumped from Lake Granby to Grand Lake and through the Alva B. Adams Tunnel to the Front Range. It is now a major recreation reservoir heavily



used for boating, fishing, water skiing, birdwatching, and as an aesthetic backdrop for shoreline summer homes and recreation activities. It has a surface area of 1,356 acres, a maximum depth of 37 feet, and a mean depth of 10 to 12 feet with 600 acres less than 12 feet deep. The lake has been kept at or near full pool since construction in the late 1940's except during the two drawdowns in 1990 and 1991. Rainbow, Brown, Cutthroat, and Brook Trout are found in the lake.

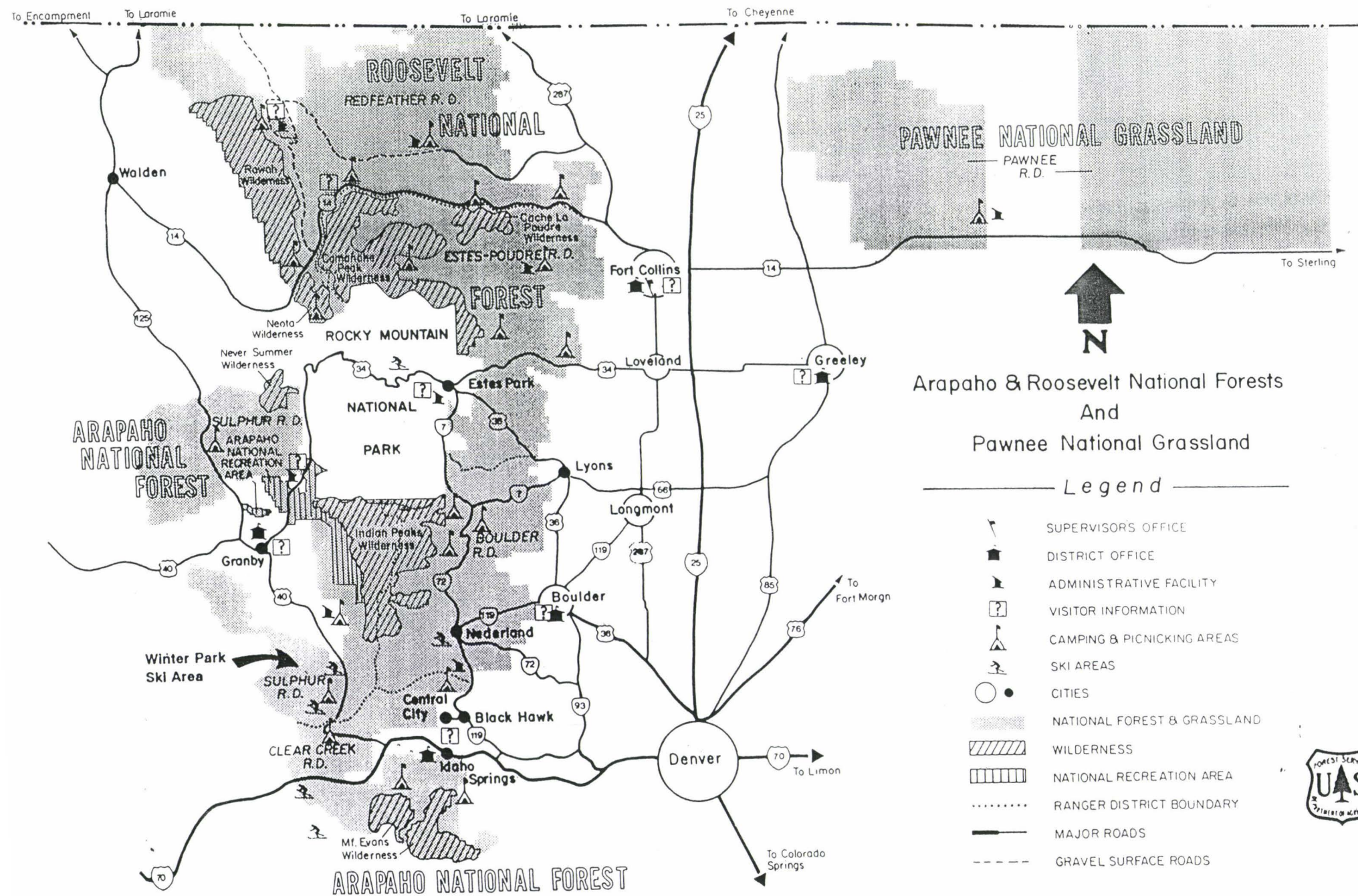
Grand Lake, the largest natural lake in Colorado, is connected to Shadow Mountain Lake by a navigable channel. The lake is adjacent to the National Forest and Rocky Mountain National Park, but is outside both boundaries. The 500 acre lake is 226 feet deep and has been a major recreation lake since the late 19th century. It is heavily used for boating, fishing, water skiing, and as an aesthetic backdrop

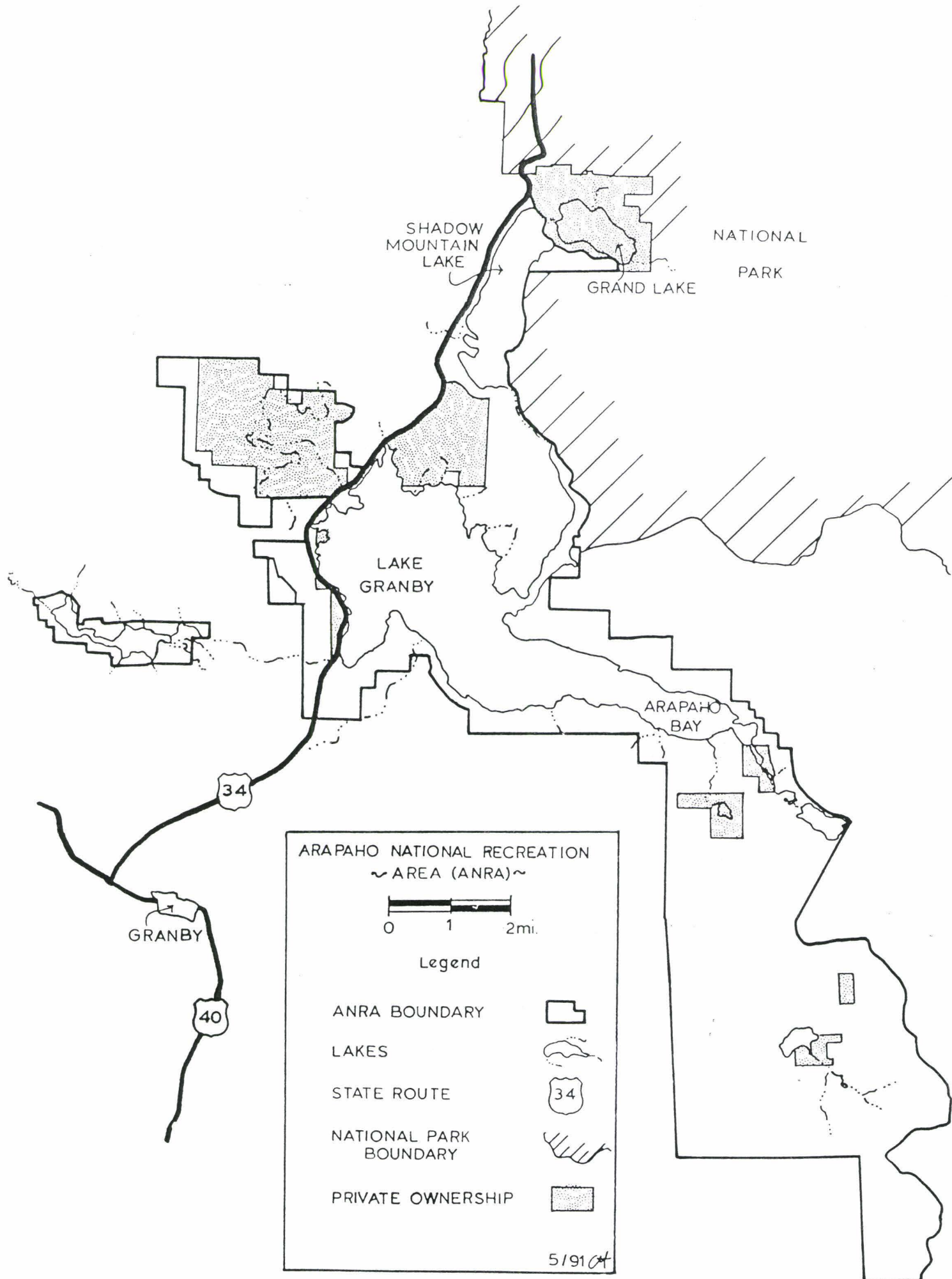
for shoreline summer homes and recreation activities. Water flows from Grand Lake through the Adams Tunnel to the Eastern Slope where it helps meet the domestic and irrigation needs for the Northern Colorado Water Conservancy District and creates hydroelectric power at five power plants operated by the Bureau of Reclamation. Grand Lake is kept at its natural pool level and has Rainbow, Lake (Mackinaw), and Brown Trout.

Lake Granby, a major lake in the ANRA, has a minor role in the project. The lake is a 7,256 acre reservoir used for water storage, with a maximum depth of 221 feet and 45 miles of shoreline. Water stored in the lake is pumped to Shadow Mountain Lake through a canal.

Present Situation

Shadow Mountain Lake, created in the late 1940's as part of the Colorado-Big Thompson Water Project, is located in the Arapaho National Recreation Area. The ANRA was created in 1978 to provide public recreation and enjoyment; to conserve and develop scenic, natural, historic, and pastoral values; and to manage and utilize natural resources such as timber, wildlife, and water. The ANRA is a premier recreation area in Colorado, and is managed by the Forest Service to enhance the recreation experience and to ensure that it remains a premier recreation area over the long term. Shadow Mountain Lake is a multiple use recreation





lake; although it was created to transport water from Lake Granby to Grand Lake, it is used for many types of recreation such as boating, sightseeing, fishing, hiking, camping, picnicking, wildlife observation, and hunting.

Shadow Mountain Lake has a history of aquatic vegetation problems, with dense thickets of vegetation clogging parts of the lake. Many boaters, anglers, local landowners, and business people feel that the aquatic vegetation spoils their boating, fishing, and aesthetic experience, and that the presence of the aquatic vegetation has lowered the value of land adjacent to the lake. The lake is a major stop on the Pacific Flyway, and waterfowl use the vegetation for food. Some groups want the lake's aquatic vegetation left untouched because of the lake's excellent waterfowl habitat.

Public Law 95-450, which created the ANRA in 1978, states that it will be administered "in such a manner as will best provide for the control of aquatic vegetation in the streams, lakes, and reservoirs within the recreation area" (Appendix A of Appendix I). The Forest Service was the lead agency for implementing two lake drawdowns, one in 1990 and another in 1991, each designed to reduce the aquatic vegetation (weeds) within the lake. Prior to these drawdowns, Shadow Mountain Lake had a severe aquatic weed problem, mostly *Elodea canadensis*, that impaired all forms of recreation except hiking, hunting and watchable wildlife. At least 600 acres of the 1300 acre lake were affected by weeds.

The Forest began investigating methods of controlling the weeds within the lake in 1988. Although lake drawdowns were the only alternatives examined in detail for the 1990 and 1991 Environmental Assessments, other methods of control were considered. Chemicals to kill the weeds, and the use of dye to prevent light from reaching the vegetation, were dismissed because of aesthetic and environmental objections, and the lack of public support. Introducing grass carp to eat the vegetation was considered but, although there was public support, carp could not be introduced into Shadow Mountain Lake due to objections from the U. S. Fish and Wildlife Service: There was a small possibility the carp could escape from Shadow Mountain Lake, move downstream, and compete with several species of threatened or endangered fish in the Colorado River. Dredging the shallow areas of the lake was dismissed because of the excessive cost -- up to \$25,000,000.00. At the time mechanical harvest was not considered in detail because the cost of an adequate machine was beyond the financial resources of the Forest.

Lake drawdowns, in 1990, were considered the only viable alternative. The public, as well as the several federal agencies involved with the lake (Forest Service, Bureau of Reclamation, Western Area Power Administration [WAPA], and the Northern Colorado Water Conservancy District), agreed that drawdowns appeared to be a cost effective and environmentally sound method of weed control and should be attempted before other methods were tried.

There were several possible problems with drawdowns, but these did appear significant. Shadow Mountain Lake must be at full pool to function as a canal to transport water from Lake Granby to Grand Lake. WAPA needs the water from Lake Granby to produce power in the winter and could not afford to have Shadow Mountain Lake below full pool for more than a couple of weeks, so a drawdown had to be limited to only a few weeks. As most lakes that are drawn down to control weeds are below full pool for entire winters, it was not known if a short, two week drawdown would kill the weeds; but the cold fall climate found at 8,300 feet in the Colorado Rockies made it worth a try.

Trying to get four government agencies to work toward one goal was difficult, but accomplished.

There were also several questions that could not be answered without first trying a drawdown. Would the weeds spread into deeper water? Was two weeks enough time to kill the weeds? Would enough weeds be killed to affect waterfowl habitat? Would fish habitat be affected?

In November, 1990 the lake was drawn down five feet for two weeks. There were fewer weeds in the lake during the summer of 1991, with improved boating, water skiing and aesthetics. Negative effects included

cost, possible proliferation of another noxious weed (bottle brush), and a reduction of waterfowl use of the lake. In October, 1991 the lake was drawn down eight feet for two weeks to aid in the construction of a boat ramp. This drawdown also helped manage the weeds within the lake. All indications are that the effects of the first drawdown, both positive and negative, continued with the second.

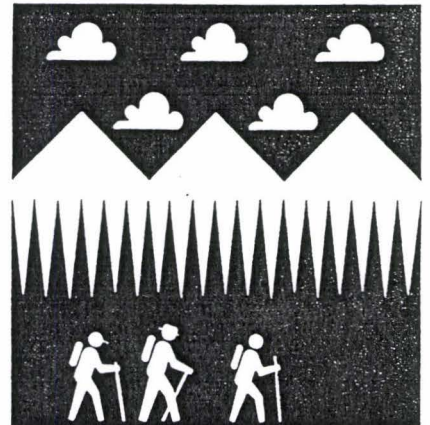
It is obvious that drawdowns control the lake's weeds -- exposed weeds were killed -- but with undesirable side effects. The two major undesirable side effects were: 1) weeds were indiscriminately killed -- waterfowl habitat could not be saved; and 2) the cost was more than originally expected. Although the original cost estimate was about \$20,000, the drawdowns actually cost closer to \$100,000 when all direct and indirect costs were tallied.

Shadow Mountain Lake is higher than Lake Granby. To re-fill Shadow Mountain Lake after a drawdown water from Lake Granby must be pumped up to Shadow Mountain Lake. This was expected to be the main expense and to cost about \$20,000. The reality was that, after the drawdowns took place, WAPA informed everybody that they had to purchase power on the spot market during the drawdowns when Shadow Mountain Lake was not functioning as a canal at a cost of over \$70,000.00. This dramatically increased the cost of a lake drawdown.

By early summer of 1994 it was obvious the weeds were returning to the shallow parts of the lake. Although the weeds will not be a problem in 1994, they will become a problem by 1995.

To manage the weeds within the lake would require a drawdown every three to six years. This means that the negative effects could occur every three to six years unless some other method of control is used that could eliminate drawdowns or increase the intervals between the drawdowns.

As a result of lobbying efforts from local citizens, Congress directed the Bureau of Reclamation to purchase an aquatic weed harvester for use by the Forest Service on Shadow Mountain Lake to manage the lake's weeds. The Bureau of Reclamation purchased the weed harvester, at a cost of over \$75,000.00, and delivered it to the Forest Service in 1992. Congress did not give the Forest Service additional funds for the operation and maintenance of the weed harvester, nor does the Sulphur Ranger District have the funds to operate the weed harvester without cutting back on services elsewhere. Because the lake is within the ANRA, and the primary reason to remove the weeds from the lake is recreation, all Forest Service funds for the harvester's operation will come from the District's recreation budget.



Currently, the Sulphur Ranger District has the only aquatic weed harvester in Colorado. Although aquatic weed harvesters are extensively used elsewhere, such as California and throughout the Eastern United States, they have never been used in Colorado. In other locations harvesters are effective in controlling aquatic weeds within lakes and rivers, but in many areas heavily used areas must be treated more than one time per season. Some locations, such as Lake Tahoe in California, require several harvesters to control their weed problem.

The harvester was put on the lake for one day in June, 1993 for training but, because of the recent lake drawdowns, no weeds were found to test its operation. The harvester was put on the lake again in August, 1993 for one day and used to harvest a small patch of weeds on the northwest shore of the lake; these weeds were the only known concentration on the lake at that time.

Citing Public Law 94-450 and its statement that the Forest Service would "control (the) aquatic vegetation in the reservoirs within the recreation area," several articles appeared in the local newspapers during August

and October of 1993, and January, April and June of 1994, demanding that the Forest Service foot the entire bill to operate the weed harvester (Appendix III).

In June, 1994, the newly re-formed Three Lakes Communities Association filed an "informal" appeal to the weed harvester decision. Their main appeal points were that they wanted the weed harvester operating on the lake whenever it was efficient and that they wanted the Forest Service to declare that it was "committed" to the harvesters operation. This was considered an "informal" appeal because it did not meet the formal Forest Service appeal regulations.

Although the appeal was considered "informal," the Forest met with representatives of the Association on June 17, 1994 to resolve the conflict. The Association and the Forest Service agreed on most points, but disagreed on the perception of how committed the Forest Service was to the harvester's operation. The result of the meeting was the Forest Service formally stating that it is committed to the harvester's efficient operation and to funding the harvester from a "combination of public and private funding sources." Although not entirely what the Association wanted -- they wanted the Forest Service to state that it was totally committed to funding the harvester from its own budget -- they were satisfied. (Appendix IV)

Purpose of the Project

This document describes a proposed plan for financing the operation of an aquatic weed harvester on Shadow Mountain Lake beginning in the summer of 1994. The aquatic weed harvester will be used to manage the aquatic vegetation (aquatic macrophytes) within the lake. The objectives of this project are to:



- Finance the operation, maintenance, and future replacement of the harvester in a way that does not detrimentally impact other Sulphur Ranger District programs.
- Encourage user participation in the planning, financing, and operation of the harvester so they will have a feeling of ownership in the harvester's operation and success.
- Manage, not eliminate, weeds in Shadow Mountain Lake using the aquatic weed harvester, so that waterfowl habitat is preserved while boating is improved.
- Increase lake user satisfaction.

The desired outcome is the harvester operating on the lake in the summer of 1994 with a partnership between landowners, marinas, Forest Service, Bureau of Reclamation, Northern Colorado Water Conservancy District, Colorado Division of Wildlife, Grand County, the Town of Grand Lake, boaters, anglers, and others. The partnership would finance the operation and maintenance of the weed harvester, and would establish a priority list of where the weeds would be harvested to improve fishing and boating and where the weeds would be left alone for wildlife habitat.

Issues

Some important issues concerning the aquatic vegetation within Shadow Mountain Lake surfaced during the last several years. Forest Service specialists identified some issues, other agencies and members of the general public identified other issues or helped to better define the issues.

Aquatic Vegetation's Impact on Recreation - Many people feel the weeds are affecting their enjoyment of the lake by interfering with boating, swimming, water skiing and fishing; some say the problem is exaggerated.

Vegetation Management's Impact on Wildlife - The lake is prime waterfowl habitat, used as a staging area and breeding ground by ducks and geese, and has some of the best duck hunting in Grand County; the two drawdowns reduced waterfowl habitat. A method to improve boating and other recreation activities while maintaining a reasonable amount of waterfowl habitat is desired.

Harvester Operation - Because the Bureau of Reclamation bought the aquatic weed harvester for the Forest Service, people expect it to be used. A limited number of acres can be treated each year by the weed harvester, so treatment areas must be prioritized; some people or groups will be unhappy with whatever priority is used. If the Forest Service is the operator, Forest Service contracting regulations must be followed -- it must not appear as if money is being taken to clear weeds from in front of personal property.

Operation and Maintenance Budget - Many people feel the Forest Service should pay the entire cost of the weed harvester's operation and maintenance, regardless of the consequences to other programs. Others feel that lake users who benefit from the harvester's operation should help cover its cost. The full cost of the operation and maintenance of the weed harvester is beyond the Sulphur Ranger District's budget's capabilities; no additional funds were included in the Forest Service's budget for the harvester's operation and maintenance. If depreciation is not a part of the harvester's operating budget, it will lower the yearly cost, but there will be a major "balloon" payment when the harvester wears out and must be replaced. Some money may be available from selling the harvested weeds, as they may have a market value as fertilizer.

Financing Administration - The Sulphur Ranger District does not have sufficient money in its budget to pay for the harvester's operation and maintenance without a detrimental impact to other recreation programs. If the Forest Service collects donations or fees, there may be problems with "overhead" being removed at higher levels. For example, donations can be used 100 percent for what they are collected (i.e., weed disposal), but fees may be reduced by the treasury and for overhead at the Washington, Denver, and Fort Collins Forest Service offices. If the District goes into partnership with another organization, and that organization collects the fees, all the fees can be used for the weed harvester. Any organization the Forest Service becomes partners with must have "non-profit" status.

The Proposed Action

The Sulphur Ranger District of the Arapaho and Roosevelt National Forests will operate an aquatic weed harvester on Shadow Mountain Lake to manage the aquatic vegetation within the lake. The Sulphur Ranger District does not have the money in its budget to pay for the operation and maintenance of the weed harvester without cutting recreation services elsewhere. The District's budget is not expected to increase in the foreseeable future to cover these costs. Therefore, the District will seek assistance elsewhere for the funds. The proposed action includes:

- Having users participate in the planning, financing, and operation of the harvester so they will have a feeling of ownership in the harvester's operation and success.
- The Sulphur Ranger District providing \$3,000 per year for the harvester's operation as long as the District's budget does not increase or decrease significantly over its current level.
- Other than the 1994 season, the Forest Service not operating the weed harvester unless the \$3,000 provided by the Forest Service is at least matched from other sources.

- Requesting donations from lake users for the operation and maintenance costs of the weed harvester.
- Having an agent collect and manage the money.
- If there is a market for the weeds, recipients of the weeds either providing assistance in disposing of the weeds or the Forest Service selling them.

B. Literature Review

The Sulphur Ranger District discussed management strategies for the Arapaho National Recreation Area, including Shadow Mountain Lake, in the "Overall Management Plan for the Arapaho National Recreation Area." Aquatic weed management in Shadow Mountain Lake, including possible strategies, was covered.

Managing lakes is a popular subject in technical literature. Cooke et al., in *Lake and Reservoir Restoration*, had a good general treatment on algae and lake drawdowns.

The North American Lake Management Society puts out several publications on lake management. Both the *NALMS Management Guide for lakes and reservoirs* by Lynn Moore and the *Lake and Reservoir Restoration Guidance Manual* edited by Moore and Thornton were helpful in working up a strategy to manage the weeds in Shadow Mountain Lake.

Bedrosian et al., in "Cooperative Community-University Water Resource Planning: An Interdisciplinary Approach," and Crockett et al., in "Setting and Achieving Water Quality Criteria for Recreation," talked of lake management strategy specifically with respect to recreation. Crockett discussed the possible conflicts between a recreationist's desires for a lake and the desires for other organisms that may use the lake for a home or food source. Bedrosian et al. discussed how recreationists perceive problems with a lake and how these perceived problems can have economic consequences by influencing public behavior.

Nichols et al., in "Developing a Plan to Manage Lake Vegetation," discussed how to develop a lake management plan. They specifically discussed different methods that can be used to control plants, including their advantages and disadvantages.

Nelson, in "Aquatic Macrophytes of Shadow Mountain Reservoir, Grand Lake, and Lake Granby, Colorado," described the weed problem in Shadow Mountain Lake in detail. This gave a good background for what the problem is and how it grew over the years.

Howard and Crompton, in *Financing, Managing and Marketing Recreation & Park Resources*, cover financing public recreation sites. They give reasonable coverage to soliciting donations, requesting grants, and cooperative arrangements between government and non-government groups.

"Developing a Theory of Recreation Partnerships in the National Forest System," by Selin and Chavez, describes the characteristics of successful partnerships. Selin and Chavez used these characteristics to develop a theory on what is needed to have a successful recreation partnership.

Randy Johnson discussed charging user fees for outdoor recreation activities in "Pay to Play: A Rationale for User Fees."

C. Methodology

In order to finance the operation and maintenance of the aquatic weed harvester, the Forest Service involved the public and other government agencies in developing financing alternatives. The public helped formulate the preferred alternative, and will help implement it.

Public Involvement

Public meetings for the *Overall Management Plan for the Arapaho National Recreation Area* (approved in 1991) took place in 1988, 1989, 1990 and 1991. The focus of many of these meetings, as well as letters received from the public, concerned the "weed problem" within Shadow Mountain Lake. It was in 1988 that an aquatic weed harvester for use on the lake was first seriously proposed. As a result of these meetings, the Sulphur Ranger District conducted the lake drawdowns in 1990 and 1991.

In 1992, after learning that the Bureau of Reclamation would purchase an aquatic weed harvester for the Forest Service for use on Shadow Mountain Lake, the Forest Service took steps to involve the public in the financing and operation of the harvester. The Forest Service identified parties who could be affected by the operation of the weed harvester, or who might be interested in its operation. A concerted effort was made to involve all Federal, State, and Local agencies who have an interest in Shadow Mountain Lake. These agencies were all directly involved through phone calls, letters, meetings, and one-on-one consultation. These people and organizations were notified that the Forest Service was proposing to operate an aquatic weed harvester on Shadow Mountain Lake within the ANRA beginning in the summer of 1994. They were asked to comment on or involve themselves in the analysis of the harvester's operation.

Public involvement and interest in the weeds within the lake was and continues to be intense. Numerous articles and editorial cartoons appeared in the local newspaper, *The Ski-Hi News*, about the weeds in Shadow Mountain Lake. Recent articles in August and October of 1993, and January, April and June of 1994, dealt specifically with the aquatic weed harvester and demanded that the Forest Service foot the entire bill to operate the harvester.

After the Bureau of Reclamation delivered the weed harvester to the Forest Service, the harvester was a constant source of interest to the local population. Interest in its operation and effectiveness is intense; although there were few weeds in the lake, many people demanded that the harvester operate on the lake during the summer of 1993.

Every effort was made to contact all interested parties. Although formal public scoping began with a legal notice on November 25, 1993 published in the *Ski-Hi News*, informal scoping began as early as 1992 with key interested groups and individuals.

A letter describing the proposal was sent in January, 1994 to marina owners, dock owners, local environmental and sport groups, any person or group who had previously commented on either the lake or the ANRA, and all others who showed an interest in the lake. A list of individuals, groups, organizations, and agencies contacted can be found in the *Environmental Assessment: Operation of an Aquatic Weed Harvester on Shadow Mountain Lake* (Appendix I).

Two public meetings were held in January, 1994. The first, a Working Group meeting of key interested parties, worked up an outline for a partnership to operate and finance the weed harvester. The second meeting was open to the public and designed as an information dissemination meeting to inform the public of what the Working Group came up with and to ask for comments. The meetings led to news releases and articles in the local newspaper.

Estimated Costs

Using hourly cost estimates provided by Aquarius Systems of North Prairie, WI (the weed harvester's manufacturer), the Forest Service developed estimated operation costs for the harvester. Estimated costs were developed both for a long season (early June through September) and a short season (late-June through August).

Costs for two season lengths were required because it is not yet known if effects from operating after Labor Day will carry over into the following year. If effects do not carry over, then operating after Labor Day would be a waste of resources. Operations in early or mid-June may not be necessary, as often weeds do not begin to grow until late June or early July.

A 16-week season assumes that the weed harvester would begin operation one week after Memorial Day and finish two weeks after Labor Day. Estimated costs for a long season:

- Operate the weed harvester on Shadow Mountain Lake from early June through September (16 weeks), four days per week, six hours per day, or approximately 384 hours (accounts for down time and poor weather).
- Operating costs for the harvester (provided by Aquarius Systems) is approximately \$3.04 per hour, or **\$1,167** for the season. This does not include an operator for the harvester or for a truck, operating costs for a truck, or depreciation on the harvester, a truck, or the trailer.
- The cost of a truck driver (WG-2) for 18 weeks (includes getting the harvester ready in the spring and putting it away in the fall), at \$76.08 per day, is **\$6,847**.
- The cost of an operator for the harvester (WG-5) for 18 weeks (includes getting the harvester ready in the spring and putting it away in the fall), at \$95.95 per day, is **\$8,636**.
- Cost for a truck is approximately \$285 per month plus \$0.48 per mile; cost for four months and 1,000 miles per month is **\$3,060**.
- Total operating cost for a 16-week season is approximately **\$19,710**.
- The weed harvester should be replaced in approximately 10 years. Depreciation is at least **\$7,000** per year, increasing the operating cost to **\$26,710** per year if the harvester is to be replaced.
- Not included in the above costs is winter storage.
- Assuming the weed harvester can harvest up to four acres per day, with two acres per day being a reasonable average, then approximately 128 acres (about 21 percent of the lake surface susceptible to a weed problem) can be harvested in one year at a cost of **\$153.98** per acre without depreciation, or **\$208.67** per acre with depreciation.



If there is no carry-over in weed control for areas treated after Labor Day then the weed harvester would not be operated after Labor Day. The harvester would not operate before mid-June if there are no weeds on the lake. This would result in a ten-week season where the weed harvester would begin operation three weeks after Memorial Day and finish the week before Labor Day and change the above costs. Estimated costs for a short season:

- Operate the weed harvester on Shadow Mountain Lake from mid-June through August (10 weeks), four days per week, six hours per day, or approximately 240 hours (accounts for down time and poor weather).
- Operating costs for the harvester (estimate provided by Aquarius Systems), at approximately \$3.04 per hour, would be **\$730**. This does not include an operator for the harvester, an operator for a truck, operating costs for a truck, or depreciation on the harvester, a truck, and the trailer.
- The cost of a truck driver (WG-2) for 12 weeks (includes getting the harvester ready in the spring and putting it away in the fall), at \$76.08 per day, is **\$4,565**.
- The cost of an operator for the harvester (WG-5) for 12 weeks (includes getting the harvester ready in the spring and putting it away in the fall), at \$95.95 per day, is **\$5,757**.
- Cost for a truck is approximately \$285 per month plus \$0.48 per mile; cost for three months and 1,000 miles per month is **\$2,295**.
- Total operating cost for a 10 week season is approximately **\$13,347**.
- The weed harvester should be replaced in approximately 10 years. Depreciation is at least **\$7,000** per year, increasing the operating cost to **\$20,347** per year if the harvester is to be replaced.
- Not included in the above costs is winter storage.
- Assuming the weed harvester can harvest up to four acres per day, with two acres per day being a reasonable average, then approximately 80 acres (about 13 percent of the lake surface susceptible to weeds) can be harvested in one year at a cost of **\$166.84** per acre without depreciation, or **\$254.34** per acre with depreciation.

Operating the harvester for 16 weeks per summer will cost approximately \$6,363.00 per season more than operating the harvester for 10 weeks. Operating for a 16-week season will cost \$12.86 per acre (without depreciation) less than the cost per acre for a 10-week season (\$45.67 with depreciation), though, because of economy of scale.

Sulphur Ranger District's Recreation Budget

The recreation budget for the Sulphur Ranger District is of prime importance in the weed harvester's operation. The District does not have enough funds to operate the harvester. If the District funds the weed harvester, then the operation and maintenance budget for the weed harvester will come from its Recreation budget. Other portions of the District's budget, such as Wilderness or Timber Management, can not be used because of Congressional mandates -- the District does not have the discretion to use these funds in other ways.

There is no separate budget line item for the Arapaho National Recreation Area -- the Sulphur Ranger District's Recreation Budget covers the entire District, including the ANRA. Project dollars available for Recreation Management on the Sulphur Ranger District, from the 1993 budget, are:

Developed Recreation	\$153,000
Dispersed Recreation	\$ 68,000

Developed Recreation (What the Sulphur Ranger District Does):

1. Manage eight campgrounds, six picnic areas, five trail heads for 609,000 PAOT (People At One Time). Management includes: maintenance, cleanup (including trash pickup), fee collection, law enforcement, and sewage services.
2. The budget finances six seasonal employees, a portion of four full time employees, vehicles and supplies.
3. Budget breakdown:

personnel	\$103,000
vehicles	\$ 20,000
supplies, contracts	\$ 30,000
<i>Total</i>	<i>\$153,000</i>

Dispersed Recreation (what we do):

1. Administer 200,000 acres of "back country." "Back Country" management includes: cleanup of hundreds of dispersed sites, administering off-highway vehicle and mountain bike use, public contacts and education, and signing.
2. Surface water management on two major lakes. "Surface Water" management includes: law enforcement, search and rescue, and lake hazard markers.
3. The budget finances four seasonal employees, a portion of four permanent employees, vehicles and supplies.
4. Breakdown:

personnel	\$53,000
vehicles	\$10,000
supplies	\$ 5,000
<i>Total</i>	<i>\$68,000</i>

Alternatives

During the Working Group meeting in January, 1994, several alternatives for financing the weed harvester were discussed, with the group selecting one alternative as preferred. The group worked under the assumption that the weed harvester will operate on the lake if funded. (See the *Environmental Assessment: Operation of an Aquatic Weed Harvester on Shadow Mountain Lake*, Appendix I, for a discussion of the environmental effects of operating the harvester.) The group decided to recommend the preferred alternative, but not to discard some of the other alternatives until it could be determined if the preferred alternative will work. In addition, the Sulphur Ranger District decided to pursue the possibility of charging a fee for the use of the lakes within the ANRA.

The Working Group used Alternative 2 from the Environmental Assessment when deciding on the operation costs and priorities for the weed harvester. This alternative included:

Operating the aquatic weed harvester on Shadow Mountain Lake each summer to manage the aquatic weeds on the lake to preserve waterfowl habitat and improve boating. Have the weed harvester operating on the lake by the summer of 1994, preferably before July 4th.

Prioritizing treatment based on the following criteria:

Areas where the harvester WILL operate (not listed by priority):

- Public boat ramps and launches (Green Ridge, Hilltop).
- Grand Lake Channel (if the harvester will fit under the bridge and is able to maneuver).

- In front of Shadow Mountain Picnic Area, away from the wetlands.
- Marinas (Shadow Mountain and Trail Ridge Marinas).

Areas of secondary priority:

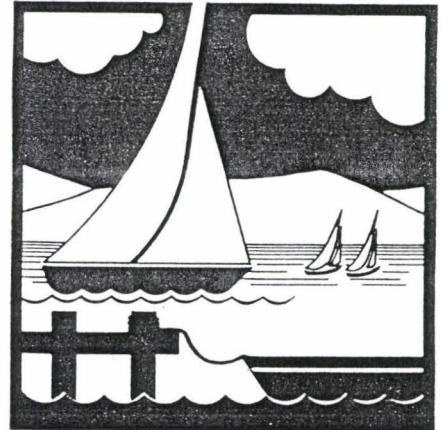
- Association boat docks.
- Areas of significant general public use.

Areas of lowest priority:

- Private boat docks.
- Strips through weeds for fishing if not covered in above categories.

Areas where the harvester will NOT operate:

- The North Fork Colorado River delta.
- Qualified wetlands.
- In the "no motor boat" areas around the islands (except for a narrow path cut for canoes) and in the Shadow Mountain Village cove (except for access to the Forest Service docks and boat launch, and near the Shadow Mountain Picnic Area).



The weed harvester will operate five days per week during the summer, weather permitting. The summer season is expected to extend from mid-June (if weeds are accessible) through September (if the effects from operating after Labor Day extend into the following summer). This gives a potential operating season of 80 working days. With normal weather, 60 to 65 operating days are expected. The expected production for a weed harvester on Shadow Mountain Lake is up to four acres of weeds harvested per day, with an average closer to two acres per day. This gives an average of 120 to 130 acres treated per year. Appendix C of the Environmental Assessment (Appendix I) contains the 1994 operating plan.

Encourage lake users to participate in the planning, financing, and operation of the harvester to the full extent allowed by law so they will have ownership in the harvester's operation and success.

The cost for this alternative is between \$13,300 and \$26,700 per year.

After discussing the operation of the weed harvester, the Working Group brain-stormed ideas for financing the harvester's operation. These ideas included:

- Partnership or a cooperative funding agreement; full cooperative funding, full operation of the harvester.
- No partnership; no help with funding, Forest Service pays the entire cost.
- Full federal funding; includes other agencies besides the Forest Service.
- Use the harvester on other lakes during the off season to help with costs.
- Eliminate depreciation from the budget -- do not fund the harvester's replacement.
- Keep depreciation in the budget -- fund the harvester's replacement.
- Have Congress increase the District's budget.
- Lease or sell the harvester to an organization that would operate it.
- Finance the harvester's operation by selling weeds as fertilizer.

- Use private donations.
- Request from the State of Colorado some of the money paid to the State for boat registrations.
- Request Lotto money from the State of Colorado.
- Have the Colorado Division of Wildlife or other organization buy the harvester from the Forest Service, then give the machine back to the Forest Service and use the money to pay for operation and maintenance.
- Charge user fees for boats on the lake, to use the boat ramps, or to park within the ANRA.
- Subcontract to an operator who can dispose of the weeds and collect money from people for weed removal.
- Have Grand County be the depository of donated funds, with the Forest Service (or another organization) operating and maintaining the harvester.

These ideas were then incorporated into the following alternatives for further discussion. A No Action alternative, not using the weed harvester on the lake regardless of financial arrangements, was not discussed. If funding is found the harvester will operate.

Alternative 1. Full Participating Partnerships. Lake users and other government agencies fully participate as partners in the operation and maintenance of the weed harvester. There is full cooperative funding of the weed harvester's operation and maintenance through agreements, participation and donations.

Alternative 2. Partial Participating Partnerships. Partial cooperative funding through donations and partnerships of lake users, local government agencies, and the Forest Service for the operation and maintenance of the weed harvester. Depreciation will not be part of the budget. There may only be partial operation of the harvester.

Alternative 3. Full Federal Funding. Full Federal funding for the operation and maintenance of the weed harvester, including other agencies besides the Forest Service.

Alternative 4. Defray Costs in Ways That Do Not Involve a Partnership. Sell the weeds as fertilizer. Use the harvester on other lakes during the off season to help with costs. Subcontract or sell the harvester to an operator. Use Lotto money. Request money from the State of Colorado from boat registration fees. Charge user fees for boats on the lake or for using the boat ramps.

Alternative 5. Full Forest Service Funding. No partnership between the Forest Service, other agencies, or lake users, and no soliciting for donations. There would be no help with funding the weed harvester's operation and maintenance, and the Sulphur Ranger District would fund the harvester's entire operation and maintenance.

After further discussion, the Working Group used parts of several of these alternatives and, with a little refining, came up with a preferred financing alternative.

Preferred Financing Alternative

The primary source of funds will come from the Forest Service and donations. The Forest Service will supply \$3,000 of the yearly budget for the harvester and will work on getting additional funds in future years for the harvester's operation and maintenance.

The Forest Service will put out donation boxes at the boat ramps, with signs stating that donations will go to the weed harvester's operation. Another entity will put donation boxes at marinas and collect the money from these boxes. Donations for the weed harvester will also be accepted at the Forest Service's Granby office and at the campgrounds. Arrangements will be made so that those making donations will receive a decal they can display on their boat to advertise that they support the weed harvester. Grand Lake Estates Homeowner's Association will pay for the decals. Northern Colorado River Lakes Protection Association (NCRLPA) will cover the cost of advertising for donations. Grand County will act as the depository for all funds used to operate and maintain the harvester. The Colorado Division of Wildlife (CDOW) will help with the operation and maintenance costs.

Depreciation will be ignored; funds will not be set aside for replacement. When the time comes to replace the harvester the community will lobby Congress and hope they can convince Congress to buy another harvester.

All costs for the harvester's operation and maintenance above the \$3,000 per year the Forest Service is supplying, along with the additional funds the CDOW is providing, will come from donations. Once these funds plus donations run out, the weed harvester will be put away for the year unless a significant amount of additional donations are received. After 1994, if there are no significant donations or matching funds from other organizations, the harvester will operate only until the Forest Service's \$3,000 is spent. The Forest Supervisor for the Arapaho and Roosevelt National Forests, M. M. Underwood, Jr., has required that the Sulphur Ranger District find partners to help pay for the cost of operating the weed harvester or the harvester will not operate (Appendix II).

The Forest Service, for the time being, will operate and maintain the harvester and will work on getting another organization to take over the harvester's operation.

The Forest Service and NCRLPA will contact homeowner's associations before their Memorial Day meetings to request donations and to look for ways to reduce costs. A way to reduce costs on a per acre basis is to have sites near the harvester's operation to dump the weeds. Homeowners can permit weed dumping (and benefit from the fertilizer effect of the weeds) on their property, thereby cutting travel time for the harvester and reducing operating costs. Signs will be prepared for property owners to show where weeds can be dumped.

The Forest Service will see if there is a market for the weeds and will attempt to get Grand Lake Metropolitan Recreation District involved. The Forest Service will examine the possibility of charging a fee for boats on the lake, for using the boat ramps, or for parking within the ANRA, with a portion of the fees going towards the operation costs of the weed harvester.

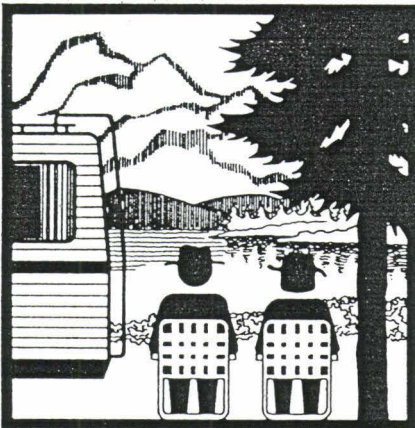
D. Discussion

The Arapaho National Recreation Area (ANRA) draws people because of water. Fishing, sailing, water skiing, canoeing, waterfowl hunting, bird watching, and just enjoying the mountain scenery with a lake in the foreground are the primary draws of the area.

Shadow Mountain Lake is kept at full or close to full pool. That, coupled with the fact that the lake is adjacent to Rocky Mountain National Park and is surrounded by mountains, makes it one of the most scenic lakes in Colorado. Because it is so scenic, the lake is heavily used for recreation. On an average summer weekend day there may be 75 boats on the lake and 150 people on shore. Although Rocky Mountain National Park is adjacent to Shadow Mountain Lake, most of the people who come to the lake are drawn by the lake and the recreation opportunities it provides. The Park is just another amenity.

Green Ridge Campground, on the south end of the lake, usually has all 84 camp sites occupied on a summer weekend. During the week the campground is often at over 90 percent capacity. Most of the campers at Green Ridge come to the area because of Shadow Mountain Lake, either to fish, boat, water ski, or enjoy the scenery.

The shoreline along three sides of the lake is mostly private land, and most of it is developed; there are almost no vacant lots along the shore. The lake has two marinas. In addition to the Green Ridge Campground, the Forest Service has two picnic areas and two boat ramps on the lake.



The lake is connected to Grand Lake by a navigable channel, thereby giving users of Shadow Mountain Lake access to the village of Grand Lake, with all its amenities. On or near Shadow Mountain Lake are several private campgrounds and a proposed 790-site Recreational Vehicle park. The lake is close to three other major Forest Service Campgrounds. In addition, on any summer weekend hundreds of people will camp in the surrounding National Forest land adjacent to the ANRA because they can not find a campsite within one of the developed campgrounds.

Because the majority of the recreation activity connected with Shadow Mountain Lake involves water, the aquatic weeds within the lake have a major effect on recreation and the quality of the recreation experience. If left untreated, the weeds will again clog 60 percent of the lake. Operating the weed harvester will prevent this from happening, at least over a large part of the lake.

If shallow areas of the lake are left untreated they will become clogged with aquatic weeds by the summer of 1996 or 1997, five or six years after the last drawdown, becoming impassible to some boats and water skiers. The western channels between the islands and the area around Pine Beach will become impassible to all but canoes or row boats; these areas are closed to motorized boats.

In areas that are treated, such as around the boat ramps and marinas, the weeds will be kept under control. Most recreationists, if they stay in the well traveled, treated parts of the lake, will have the quality recreation experience they have come to expect.

Currently it is not known how long an area will remain free of weeds after it is harvested. In other lakes where aquatic weed harvesters are used an area may have to be harvested several times in one season, but these lakes are warmer, lower in elevation, and have a longer growing season. At 8,300 feet, Shadow Mountain Lake is cold with a short growing season; this may mean that one harvest per season will be sufficient.

The problem is paying for the harvester's operation.

The private land adjacent to Shadow Mountain Lake is close to 100 percent developed. Many businesses, both on or near the lake, depends somewhat on the tourist traffic generated by the lake. But many land owners and businesses expect taxpayers, through the Forest Service, to pay for managing the weeds at no cost to themselves.

Many others, who either do not recreate on the lake, or who recreate with canoes, do not want to see the government pay for the weed harvester's operation; they want to see those who benefit from the harvester to pay for its operation.

Even though Public Law 94-450 states that the Forest Service will "control (the) aquatic vegetation" within the lake, with its decreasing budget it is unlikely that the Forest Service will be able to finance the weed harvester's operation without outside financial help. Operation and maintenance cost for the harvester would have been about 10 percent of the Sulphur Ranger District's Fiscal Year 1993 recreation budget. In a time of decreasing budgets, this cost will increase in relation to the recreation budget. Although \$20,000.00 may not seem like a lot of money to some, the District's recreation programs are already underfunded and the District cannot afford the additional cost.

Because of the cost involved, the Forest Service's decreasing budget, and the extensive cooperation required between several different government agencies, there is little chance for another drawdown of Shadow Mountain Lake in the near future.

Keeping Shadow Mountain Lake free of aquatic weeds is primarily a desire of people who use the lake for recreation. Neither the Bureau of Reclamation, who built and maintains the lake and dam, nor the Northern Colorado Water Conservancy District, who uses the water from the lake, are affected by the weeds. Citing Public Law 94-450, Northern Colorado Water Conservancy District has said they will not help finance the harvester. Maintaining areas of heavy recreation use free of aquatic weeds should prolong the period between lake drawdowns, or minimize the need for another drawdown, even if weeds are allowed to proliferate in other parts of the lake.

There remains very little support from the community for the weed harvester's operation and maintenance being paid for by non-Forest Service groups, although most of the community does not want to see recreation services cut somewhere else. If the Forest Service covers all costs connected with the weed harvester's operation and maintenance, it would mean cutting recreation services elsewhere. This could mean from two to six recreation seasonal employees would not be hired each summer. Six seasonals is one third of the Sulphur Ranger District's summer recreation staff; cutting these positions would have a significant impact on the services the District provides.

The Forest is attempting to increase its budget in traditional ways to fund the harvester, but the chance of a budget increase given the current political budget climate is slim.

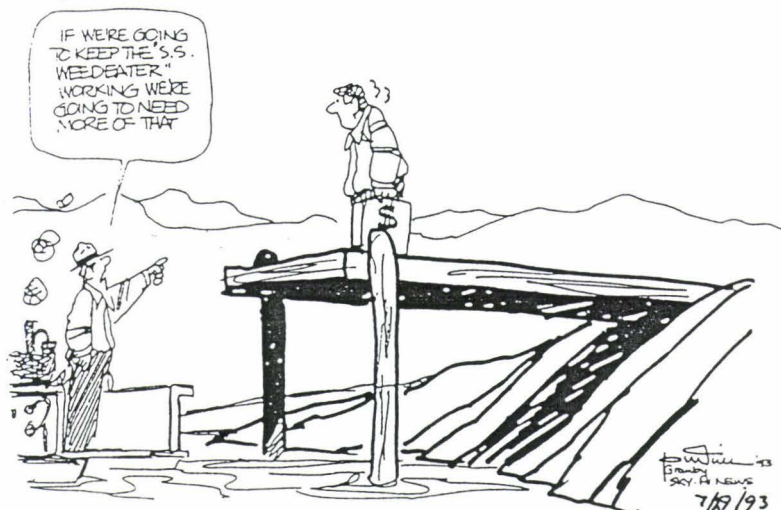
Charging fees within the ANRA is an option. Many of the lakes within Colorado are part of the Colorado State Park's system; most of these parks charge an entry fee of \$3.00 per car per day, or \$30.00 for an annual pass. This entry fee (the same fee regardless of the type of vehicle) allows anyone who enters the park to use the boat ramp and lake.

If the Forest Service charged an entrance fee, a parking fee, boat ramp fee or lake user fee, 65 percent of the money would return to the ANRA for administration costs and other uses. Several Forest Service administered lakes, especially in the southeast, do charge parking fees at boat ramps.

Entrance fees, because of the layout of the ANRA, present logistical problems that could lead to administrative costs exceeding the fees generated.

Parking fees and boat ramp fees have their own problem. Administrative costs could be high. In addition, because people could launch their boat and then drive elsewhere to park, the income from fees might not be as much as could be expected. Charging fees at the Forest Service boat ramps may clog the Town of Grand Lake's boat ramp, as it would be swamped with traffic from people avoiding the fees at the Forest Service ramps; the adjacent National Park Service trailhead parking would also become clogged from people using it once the town's boat ramp parking is full.

The only known Forest Service area that charges a fee for boats is Shasta Lake in California. Shasta Lake charges \$150.00 per year for house boats or large cabin cruisers if they are on the lake for over 30 days per year. This is a special use permit for "living" on the lake, not a daily use fee. Smaller boats, or boats launched every day, do not pay a fee, although such a fee is being considered for the future.



The Forest Service is looking into charging user fees for boats on the ANRA's lakes. Many of the people who use Shadow Mountain Lake are willing to pay a fee to use the lake, especially if most of the fees stay on the Sulphur Ranger District with no cuts in the budget elsewhere. These fees, or at least a portion of them, could be used to fund the harvester's operation. At least for the first few years, administration and enforcement costs could exceed income from such a fee. Because of this, along with a shortage of personnel, the District will wait and see how donations work before initiating such a fee. Regardless of how donations work out, some sort of fee will probably be charged within the ANRA relating to the lakes by the summer of 1996.

The Forest Service considered renting the weed harvester to another lake in Colorado with a weed problem. As it turns out, most of the other lakes in Colorado that could use a harvester would need it during the same season as it is needed on Shadow Mountain Lake.

The Forest Service is considering using a concessionaire to operate the weed harvester in future years. If it is a "non-profit" concessionaire, then all the revenues can go back into the operation and maintenance of the harvester. Trailgroomers or the Grand County Partners for Trails, two local trail advocate groups, could do a good job operating the harvester.

RBI, a lake maintenance organization, contacted the Sulphur Ranger District about leasing the harvester. RBI could use the harvested weeds for a prototype project where Elodea (a major component of the "weeds" within the lake) are used to help purify water in sewage treatment plants. Although Shadow Mountain Lake would have priority, they also want to use the harvester on other lakes during the summer season. RBI claims that they can harvest up to 0.5 acres of weeds an hour. Such high production would be achieved by using barges on the lake to down-load weeds from the harvester, thus saving time by not having to head for shore every time the harvester is full. If this production can be achieved, it may be possible to use the weed harvester on other lakes for part of the summer and still treat Shadow Mountain Lake. It may be possible for RBI to operate the harvester on the lake and make a profit with the harvested weeds. Steve Smith of RBI said the Sulphur Ranger District has the only harvester in Colorado.

Smith said he is not sure of his production figures, as his outfit has yet to actually operate a weed harvester, but he has done a lot of research and is sure that his production figures are achievable. RBI will purchase two harvesters once they are ready to begin production. Smith came to Granby on April 5, 1994 to look at

the harvester and to determine if RBI and the Forest Service are close enough to agreement to begin negotiations. Smith followed up his April visit with several more visits throughout the summer. Although it is still possible that RBI and the Forest Service may work out an agreement where RBI takes over part or all of the harvester's operation, it appears that RBI is primarily interested in using the harvester on other lakes during the same season that the harvester would be required on Shadow Mountain Lake. RBI has stated, though, that they will provide as much technical assistance as possible for no fee.

There may be a market for the harvested weeds. Both RBI and Paul Harrington, a local landscaper, have expressed an interest in the weeds. Because no steady supply is anticipated, the Forest Service will not charge for the weeds in the summer of 1994; but, if the demand for the weeds exceed the supply, and the Forest Service can provide a steady, dependable supply, it may charge for the weeds in the future. Harrington has offered to transport the weeds from the lake shore to his disposal site, thereby saving the Forest Service the cost of transporting the weeds to the Sunset borrow pit for disposal.

For 1994, though, the general consensus is to finance the weed harvester with donations and see what happens. The Town of Grand Lake, along with several other agencies, feel that the benefiting users should pay at least part of the cost.

Several organizations have agreed to help fund the weed harvester's operation. The Forest Service has \$3,000.00 for the harvester's operation and maintenance in 1994. The Colorado Division of Wildlife will provide \$900.00 towards the harvester's operation in 1994.

Grand Lake Estates Homeowner's Association is providing \$550.00 towards the purchase of 1,000 decals, with the Forest Service providing the remaining \$225.00. Cost is high because of the high quality of the decals and the printing set up costs. Future decals will cost less. The decals are designed for display on a boat by those who donate money or services towards the weed harvester's operation. Because of this, the decals are designed to be attractive and waterproof. Donations will be accepted at marinas, at campgrounds from the campground rangers, and at boat ramps. Decals will not be available for donations made at the boat ramps, but will be available at the marinas, the Sulphur Ranger District office in Granby, and from campground rangers. Donation locations will have a sign stating what the donations are for. Decals and signs will be ready before the ice leaves the lake.

Northern Colorado River Lakes Protection Association (NCRLPA) will donate up to \$500.00 for advertising to solicit donations for the weed harvester. The big advertising push will be for the Memorial Day and July 4th weekends.

Shadow Mountain Lake has several homeowner's associations along its shores. Several of these associations have a fair amount of money in their treasury. The Forest Service, along with the NCRLPA, plans on attending the board meetings of several homeowner's associations around Memorial Day to ask for assistance for the weed harvester.

Grand County will act as the agent to receive the donations. The county will also help with disposal of the weeds if the weeds are stockpiled next to the lake in a location accessible by a dump truck and a front end loader.

At first, the Forest Service will not ask for a minimum donation to receive a decal, although if donations are low that may change. An average donation of \$15.00 to \$20.00 will cover most of the costs for the harvester if all the decals are sold. If there are a significant amount of donations at the boat ramps, where decals will not be given for donations, an average of \$10.00 to \$15.00 donation per decal may be enough to pay for full operation of the harvester. Smaller donations, or a significantly fewer number of donations than hoped for, will mean either reduced operation in the future or supplemental funds must be found.

By mid-summer, 1994, over \$1,000.00 had been received in donations above those mentioned above, with more expected. Because of the lack of weeds in the lake, and the few times the harvester is expected to be used during the summer of 1994, the harvester will probably be fully funded by donations this summer.

There are other ways people can help reduce the harvester's operation and maintenance cost. People can:

- Provide a driver and vehicle to tow the trailer.
- Provide fuel for the truck and harvester.
- Help with maintenance, repairs and parts.
- Provide areas on their property for weed disposal.
- Provide a place out of the weather for the harvester's winter storage.

Mark Collins, Town Manager of the Town of Grand Lake, said in a phone conversation that the town board did not want to help fund the weed harvester until the weed problem is back. They do not expect the problem to be significant in 1994. Collins said the town might be interested in helping fund the weed harvester in future years once the weeds are back. He was unaware that Northern Colorado Water Conservancy District felt that future drawdowns were not needed. Collins suggested that the Forest Service have a "demo" day in August. The Forest Service could invite Three Lakes Water and Sanitation District, the Town of Grand Lake, and the Grand Lake Metropolitan Recreation District, among others, and demonstrate what the weed harvester was capable of doing. If the demonstration is successful, Collins recommended that sometime between September and November the Forest Service go to these three organizations and propose that they help out with funding. The three groups should be much more receptive once they see the harvester operate and if the weed problem returns. The Fiscal Year for all three organizations begins January 1.

Although members of the Working Group filed an informal appeal to the aquatic weed harvester's operating plan, they were primarily interested in having the Forest Service assure them that the Forest Service was committed to the harvester's operation. Once assured, they withdrew their appeal. Its anticipated that the working group, or a similar group, will be convened again once the harvester's operating costs, production rate, and the success of acquiring donations can be determined with reliable accuracy. The working group will then re-examine the alternatives and, possibly, suggest a new way to finance the harvester.

As more partners help with costs, it will become easier for the Forest Service to request and receive grant money for the harvester's operation. Many grants require matching funds from other sources. In some cases, it is easier to receive a grant if the organization putting in the request is not part of the Federal Government, although the Federal Government can be a partner to the organization requesting the funds.

Later, after demonstrating what the aquatic weed harvester can accomplish and how extensive the weed problem is, more organizations may participate in the harvester's financing. As organizations come forward, the Forest Service will set up a partnership, probably with Grand County acting as the main agent. The partnership will be in a good position to request grants from several sources to help with the harvester's financing. As an example, the partnership could qualify for a Coors Pure Water 2000 grant. In 1995, if the Town of Grand Lake, Grand Lake Metropolitan Recreation District, Three Lakes Water and Sanitation District, and several other organizations join the partnership, receiving a grant might become a reality.

E. Summary

Operating the aquatic weed harvester on Shadow Mountain Lake is not possible with the Sulphur Ranger District's current budget. To operate the weed harvester the District needs outside help, be it from other government agencies, donations, grants, or a concessionaire.

A significant weed problem is not expected in 1994. This will help, as the harvester will probably not have to operate for the entire summer to keep the aquatic weeds in check. The aquatic weed problem is expected to increase by the summer of 1995. Because of this, the Sulphur Ranger District will use 1994 to prepare for 1995 and later years.

Although several organizations refused to help support the harvester's operation, many do. Currently, for the 1994 season, the Sulphur Ranger District has \$3,000.00 budgeted for the harvester's operation. The Colorado Division of Wildlife has pledged \$900.00 for the harvester's operation. Grand Lake Estates Homeowner's Association is providing \$550.00, with an additional \$225.00 from the Forest Service, for the purchase of decals for contributors to display on their boats. Northern Colorado River Lakes Protection Association has pledged \$500.00 for advertising. Others, such as Grand County and Paul Harrington, have offered non-financial support that should reduce the operating costs for the harvester. By mid-summer an additional \$1,000.00 had been donated by private citizens. With expected donations there should be enough funds available to keep the harvester on the lake during the summer of 1994, thereby keeping the weeds under control and demonstrating the aquatic weed harvester's capabilities.

With a successful 1994 season other organizations may join the partnership. The Town of Grand Lake indicated that they, along with the Grand Lake Metropolitan Recreation District and Three Lakes Water and Sanitation District, will participate in 1995 if there is a demonstrated weed problem and if the weed harvester will keep the weeds under control.

The partnership can be in a position to request grants, such as Coors Pure Water 2000, to help fund the harvester in 1995 and later years.

Its anticipated that the working group, or a similar group, will be convened again once the harvester's operating costs, production rate, and the success of acquiring donations can be determined with reliable accuracy. The working group will then re-examine the alternatives and, possibly, suggest a new way to finance the harvester.

The Forest Service will probably begin charging user fees in the summer of 1996 to help offset the harvester's costs.

There is a possibility of having a concessionaire, such as Steve Smith's RBI, operate the harvester. Such an arrangement could present no cost to the Sulphur Ranger District, and may even generate a profit, if a market for the harvested weeds exists. If the production rates suggested by Mr. Smith materialize, then there is the possibility of leasing the harvester to other lakes and using funds generated by such leases to offset operation costs on Shadow Mountain Lake.



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Appendix I.

Environmental Assessment

**Operation of an Aquatic Weed Harvester
on
Shadow Mountain Lake**

Environmental Assessment

Operation of an Aquatic Weed Harvester
on
Shadow Mountain Lake

Arapaho National Recreation Area
Arapaho and Roosevelt National Forests
Grand County, Colorado

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Environmental Assessment

Operation of an Aquatic Weed Harvester on Shadow Mountain Lake

Arapaho National Recreation Area
Arapaho and Roosevelt National Forests
Grand County, Colorado

Introduction

This Environmental Assessment (EA) describes the environmental effects of operating an aquatic weed harvester on Shadow Mountain Lake, Arapaho National Recreation Area (ANRA), Grand County, Colorado (Map, Page 2), beginning in the summer of 1994 to manage the aquatic vegetation (aquatic macrophytes) within the lake.

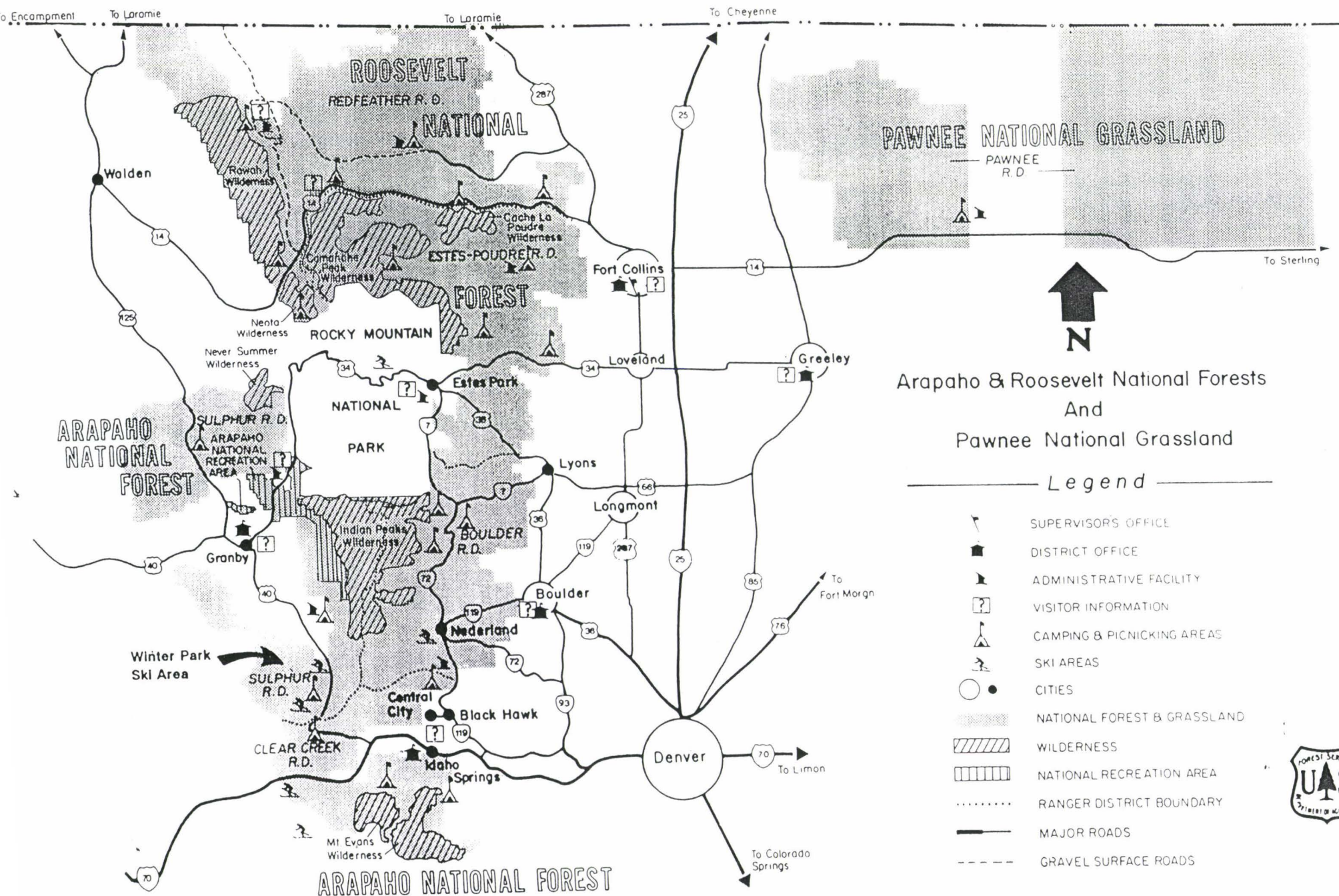
There is a need to undertake this action now in order to have the aquatic weed harvester, purchased in 1992 for the Forest Service by the Bureau of Reclamation, operating on the lake during the summer of 1994. One action alternative, along with a No Action alternative, are described in this document. The action alternative will have the harvester operating on Shadow Mountain Lake and prioritizes areas of the lake for treatment by the harvester. The alternative is designed to meet the goals outlined in the *Land and Resource Management Plan* (Forest Plan) for the Arapaho and Roosevelt National Forests and Pawnee National Grassland (1).

The proposed action will help manage the aquatic vegetation within Shadow Mountain Lake and attempts to comply with Public Law 95-450, which created the ANRA on October 11, 1978 and requires the Forest Service to "control ... aquatic vegetation ... within the recreation area." (Appendix A)

This Environmental Assessment is *not* a decision document: it does not describe the decision to be made by the District Ranger regarding this proposed project, rather it discloses the environmental consequences of implementing the proposed action. The District Ranger's decision is stated and explained in the Decision Notice accompanying this Environmental Assessment.

This Environmental Assessment focuses on the environmental effects associated with the proposed action on the Arapaho and Roosevelt National Forests. Impacts which may occur on lands adjacent to the National Forest and impacts which may occur in surrounding communities are also described in this document so that other landowners and decision-makers may be aware of the implications of this Forest Service project. Other Federal, state and local jurisdictions have assisted in the analysis and disclosure of these environmental consequences. (See page 23, "Agencies and Organizations Consulted.")

(1) The Forest Plan, dated May 4, 1984, is on file in the Forest Supervisor's Office in Ft. Collins, CO.



Need For The Proposal

Shadow Mountain Lake, created in the late 1940's as part of the Colorado-Big Thompson Water Project, is located in the Arapaho National Recreation Area (ANRA). The ANRA was created to provide public recreation and enjoyment; to conserve and develop scenic, natural, historic, and pastoral values, and to manage and utilize natural resources such as timber, wildlife, and water. The ANRA is a premier recreation area in Colorado and is managed by the Forest Service to enhance the recreation experience and to insure that it remains a premier recreation area over the long term. Shadow Mountain Lake is a multiple use recreation lake; although it was created to transport water from Lake Granby to Grand Lake, it is used for many types of recreation such as boating, sightseeing, fishing, hiking, camping, picnicking, wildlife observation, and hunting (Map, Page 4).

In past years, Shadow Mountain Lake had an aquatic vegetation problem, with dense thickets of vegetation clogging parts of the lake. Many boaters, anglers, local landowners, and business people stated that the aquatic vegetation spoiled their boating, fishing, and aesthetic experience while on this heavily used recreation lake and that the presence of the aquatic vegetation lowered the value of land adjacent to the lake.

The lake is a major stop on the Pacific Flyway and the waterfowl use the vegetation for food. Because of this, some groups want the lake's aquatic vegetation left alone because of the lake's excellent waterfowl habitat.

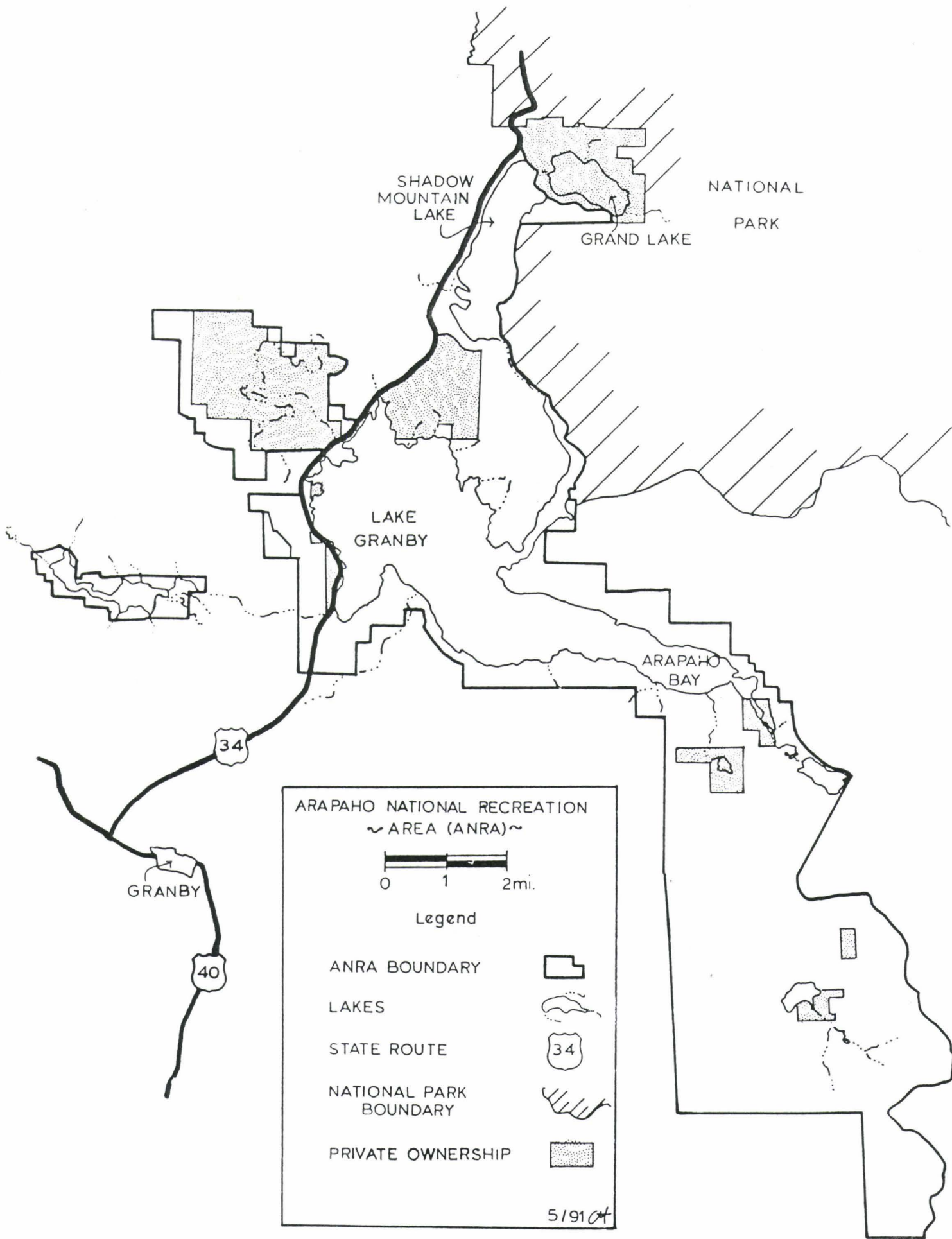
Public Law 95-450, which created the ANRA in 1978, states that it will be administered "in such a manner as will best provide for ... the control of aquatic vegetation in the streams, lakes, and reservoirs within the recreation area." The Forest Service was the lead agency for two lake drawdowns, one each in 1990 and 1991, designed to reduce the aquatic vegetation (weeds) within the lake (see the Decision Notice, Finding of No Significant Impact for the *Environmental Assessment for the Aquatic Vegetation Management, Shadow Mountain Lake, Arapaho National Recreation Area* and the Decision Notice, Finding of No Significant Impact for the *Environmental Assessment for the 1991 Shadow Mountain Lake Drawdown*, both available on request from the Sulphur Ranger District, PO Box 10, Granby, Colorado 80446). Prior to these drawdowns Shadow Mountain Lake had a severe aquatic weed problem, mostly *Elodea canadensis*, that impaired all forms of recreation except possibly waterfowl hunting and watchable wildlife. At least 600 acres of the 1300 acre lake were affected by weeds.

The lake was drawn down five feet for two weeks in November, 1990, as a feasibility study to determine if a short, fall drawdown affected the weeds within the lake and if fall drawdowns could be used to manage the weeds. There were fewer weeds in the lake during the summer of 1991, with improved boating, water skiing and aesthetics. Negative results included cost, a minor algal bloom, possible proliferation of another noxious weed (bottle brush), poor fishing near the shore, and a reduction of waterfowl use of the lake.

The lake was drawn down eight feet for two weeks in October, 1991, to aid in the construction of the Green Ridge boat ramp. This drawdown was to aid a construction project, but it also helped manage the weeds within the lake. All indications are that the effects of the first drawdown continued with the second. The positive effects (improved boating, water skiing and aesthetics) continued, but some of the negative effects (cost, algal bloom, and a reduction in waterfowl use of the lake) may have intensified.

It is obvious that drawdowns help control the lake's weeds, but with undesirable side effects. To manage the weeds within the lake a drawdown would be required every three to five years. This means that the negative affects could occur every three to five years unless some other method of control is used that could eliminate drawdowns or increase the intervals between the drawdowns. Aquatic weed harvesters were proposed in 1988, and were an alternative "Not Considered in Detail" in the 1990 Environmental Assessment as the money needed to purchase a weed harvester was unavailable at the time.

The two drawdowns reduced the aquatic weeds for a few years; during the summers of 1992 and 1993 there were few weeds, although they are expected to increase over the next few years. The drawdowns caused



problems: they are expensive, require extensive cooperation between several agencies, do not discriminate on where the aquatic vegetation is killed so they impact waterfowl habitat, and they can leave fish stranded in the river channel below the dam.

Congressman Skaggs (D-Boulder) inserted a budget line item in the Bureau of Reclamation's 1992 Appropriation Bill for the purchase of an aquatic weed harvester for use on Shadow Mountain Lake. In May, 1992 the Forest Service prepared a Decision Memo for the purchase and operation of a weed harvester on the lake. Due to intense controversy over the operating plan included in the Decision Memo, the decision was withdrawn.

The Bureau of Reclamation purchased the weed harvester and delivered it to the Forest Service in the fall of 1992. Congress did not give the Forest Service additional funding for the operation and maintenance of the weed harvester. The Sulphur Ranger District does not have the funding to operate the weed harvester without cutting back on services elsewhere. Because the lake is within the ANRA and the primary reason to remove the weeds from the lake is recreation, all Forest Service funds will come out of the District's recreation budget. This means reduced recreation services if the Forest Service provides all the required funding. Several articles appeared in the local newspapers during August and October of 1993 and January of 1994 demanding that the Forest Service foot the entire bill to operate the weed harvester.

The harvester was put on the lake for one day in June, 1993, for training, but, because of the recent lake drawdowns, no weeds were found to test its operation. The harvester was put on the lake again in August, 1993 for one day and used to harvest a small patch of weeds on the northwest shore of the lake; these weeds were the only known concentration on the lake at that time.

The objectives of this proposal are to:

- Manage, not eliminate, weeds on Shadow Mountain Lake using the aquatic weed harvester, so that waterfowl habitat is preserved and boating improved.
- Develop an operating plan that sets priorities of where the harvester will operate on the lake.
- Encourage user participation in the planning, financing, and operation of the harvester so they will have a feeling of ownership in the harvester's operation and success.
- Prolong the period between drawdowns, or minimize the need for another drawdown.
- Finance the operation, maintenance, and future replacement of the harvester in a way that does not detrimentally impact other Sulphur Ranger District recreation programs.
- Increase lake user satisfaction.

<i>The Proposed Action</i>	The Sulphur Ranger District of the Arapaho and Roosevelt National Forests proposes to operate an aquatic weed harvester on Shadow Mountain Lake to manage the aquatic vegetation within the lake.
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The project proposal consists of operating an aquatic weed harvester on Shadow Mountain Lake each summer, beginning in the summer of 1994. The project proposal includes a priority list of where the aquatic vegetation (weeds) would be harvested to improve fishing and boating and where the aquatic vegetation would be left alone for duck habitat.

The proposal includes the following:

Manage, not eliminate, the aquatic weeds on Shadow Mountain Lake using the aquatic weed harvester so that waterfowl habitat is preserved and boating improved. Have the harvester operating on the lake by the summer of 1994, preferably by July 4th.

Develop an operating plan that sets priorities of where the harvester will operate on the lake. The operating plan will be in place before the weed harvester operates on the lake.

Prioritize treatment areas based on criteria that protects wetlands, critical wildlife habitat, and provides the greatest public good for the money. If the treatment areas are carefully chosen the time required between drawdowns will be extended.

Encourage user participation in the planning, financing, and operation of the harvester so they will have a feeling of ownership in the harvester's operation and success.

Operate the weed harvester five days per week during the summer, weather permitting. Do not operate the harvester on weekends or holidays. The summer season is expected to extend from mid June through September. This gives an operating season of about 80 working days per year. With normal weather on the lake, 60 to 65 operating days are expected.

Dispose of all weeds at the Sunset Borrow Pit unless a better area is found.

This proposed action is consistent with the overall management direction provided within the Land and Resource Management Plan (Forest Plan) for the Arapaho and Roosevelt National Forests. The Forest Plan for the Arapaho and Roosevelt National Forests is being implemented as required by the Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA, P.L. 93-378) and the National Forest Management Act of 1976 (NFMA, P.L. 94-588). This Forest Plan provides the framework for the action proposed here, and the action is being undertaken as one step in implementing the Forest Plan. The proposed action meets the Forest Plan Goals of: 1) scheduling vegetation treatments for the greatest number of recreation, wildlife, range, water, and timber goals as specified by each management area; 2) recognizing the significance of recreation in proximity to the Front Range population and natural attractions; 3) providing for intensive management of motorized recreation on high quality areas and locations available today; and 4) improving habitat effectiveness and minimizing disturbance to wildlife whenever consistent with management goals. These goals are listed in the Forest Plan in Chapter III, pages 2 through 7.

The environmental analysis documented in this Environmental Assessment is tiered to the *Final Environmental Impact Statement For The Arapaho and Roosevelt Land and Resource Management Plan* approved in May, 1984; to the *Decision Notice, Finding of No Significant Impact and Environmental Assessment for the Aquatic Vegetation Management, Shadow Mountain Lake, Arapaho National Recreation Area* approved April 2, 1990; to the *Overall Management Plan for the Arapaho National Recreation Area* approved July 17, 1991; and to the *Decision Notice, Finding of No Significant Impact and Environmental Assessment for the 1991 Shadow Mountain Lake Drawdown* approved September 5, 1991. All of the above documents are available for review at the Sulphur Ranger District office in Granby, Colorado.

The proposed action is not "connected" to or dependent upon any other action in this same area. It does not establish a precedent for other actions which may result in significant environmental effects.

Environmental Issues

There are some important environmental issues to consider in determining how best to operate the weed harvester. Forest Service resource specialists identified some issues; other agency specialists and members of the general public identified other issues or helped to better define these issues.

Public
Notifica-
tion

One of the first steps in the scoping process for the weed harvester project was to identify members of the public who could be affected by the proposed project, or who might have an interest in the decisions made for this proposed project. Other federal, state and local governmental agencies were informally consulted during this process. These people and organizations were notified that the Forest Service was proposing to operate an aquatic weed harvester on Shadow Mountain Lake within the ANRA beginning in the summer of 1994. They were asked to comment on or involve themselves in the analysis of the proposed project.

A concerted effort was made to involve all Federal, State, and Local agencies who have an interest in the project. These agencies were all directly involved through phone calls, letters, meetings, and one-on-one consultation.

Public meetings on Shadow Mountain Lake took place in 1988, 1989, 1990 and 1991. During this time many letters were exchanged between members of the public and the Forest Service, as well as personal contacts, concerning the "weed problem" within the lake.

Numerous articles and editorial cartoons appeared in the local newspaper, *The Ski-Hi News*, about the aquatic vegetation in Shadow Mountain Lake and the proposed action. Recent articles in August and October of 1993, and January of 1994, dealt specifically with the aquatic weed harvester and demanded that the Forest Service foot the entire bill to operate the harvester.

Public involvement and interest in the aquatic vegetation within the lake is intense, as demonstrated by their involvement during the two lake drawdowns and their interest in the drawdowns' results.

After the Bureau of Reclamation purchased the weed harvester for the Forest Service the harvester was a constant source of interest to the local public. Interest in its proposed operation and effectiveness is intense; many people demanded that the harvester operate on the lake during the summer of 1993, although there were no weeds in the lake that summer.

Every effort was made to contact all interested parties. Formal Public Scoping for this project began with a legal notice on November 25, 1993 published in the *Ski-Hi News*, although informal scoping had begun earlier by phone with key interested groups and individuals.

A letter describing the proposal was sent in January, 1994 to marina owners, dock owners, local environmental and sport groups, any person or group who had previously commented on either the lake or the ANRA, and all others who showed an interest in the lake. A list of individuals, groups, organizations, and agencies contacted can be found in Appendix B.

Two public meetings were held in January, 1994. The first, a Working Group meeting of key interested parties, was designed to work up an outline for a partnership to operate and finance the weed harvester, including an operating plan with priorities. The second meeting was open to the public and was designed as an information dissemination meeting to inform the public of what the Working Group came up with and to ask for comments. The meetings were followed by newsreleases and articles in the local newspaper on the results of the meetings.

The Interdisciplinary Team reviewed Forest Planning documents and available literature on similar projects. Based on this information and the public's response, the Interdisciplinary Team developed a list of the major public and environmental issues.

Issues

Aquatic Vegetation's Impact on Recreation - Many people feel that the aquatic vegetation affected their enjoyment of the lake by interfering with boating, swimming, water skiing and fishing; some say the problem is exaggerated. The two drawdowns may have affected fishing in the lake by eliminating hiding cover, but many weeds also hurt fishing. The weed harvester's operation could conflict with the many recreation events that take place on the lake, such as fishing contests and sailing regattas. The harvester is noisy and, to be effective, may have to operate early in the morning; this could be a problem for anglers or people with houses on the lake shore. Some people feel the aquatic vegetation is unaesthetic and that it lowers the value of lakefront property. Some feel recreationists go to lakes with no vegetation problem, thereby hurting local businesses.

Vegetation Management's Impact on Wildlife - The lake is prime waterfowl habitat, is used as a staging area and breeding ground by ducks and geese, and has some of the best duck hunting in Grand County. The two drawdowns killed the exposed vegetation within the lake, reducing the waterfowl and fish habitat. A method to improve boating and other recreation activities while maintaining a reasonable amount of waterfowl and fish habitat is desirable. The 1991 drawdown impacted fish in the Colorado River below the dam by stranding fish when the river's flow was reduced from a high of about 3,000 cfs (to lower the lake) to a low of about 50 cfs (maintenance flow) when the lake reached eight feet below full pool. The lake is habitat to several sensitive wildlife species, including the tiger salamander, wood frog, river otter, and osprey; the lake is also potential habitat for sensitive shore birds.

Treatment Area Priority - A limited number of acres can be treated each year by the weed harvester, so treatment areas must be prioritized; some people or groups will be unhappy with whatever priority is used.

Operation and Maintenance Budget - Many people feel the Forest Service should pay the entire cost of the weed harvester's operation and maintenance, regardless of the consequences to other programs. Others feel that the lake users who will benefit from the harvester's operation should help cover its cost.

Alternatives

One alternative of carrying out the proposed action and one alternative of taking No Action were developed and considered in the environmental analysis process. The action alternative is operating the weed harvester on Shadow Mountain Lake. These alternatives were studied in detail and are presented here for consideration in the decision process. The alternatives include mitigation measures, monitoring measures, and conform to the Forest Management Standards and Guidelines published in the Forest Plan on pages III-16 through III-251.

*Alternatives
Considered and
Analyzed
In Detail*

Alternative 1. No Action

The weed harvester will not operate on Shadow Mountain Lake. The aquatic weeds will be allowed to increase in the lake with no effort at control or management using the aquatic weed harvester.

National Environmental Policy Act procedural regulations require the Forest Service to study the No Action alternative in detail, and to use it as a baseline for comparing the effects of the other alternative (40 CFR 1502.14(d), and Forest Service Handbook 1909.15, 23.1). In this case, the No Action alternative also is a genuinely viable alternative to the action alternative.

Alternative 2. Operate the Harvester on the Lake

The aquatic weed harvester will operate on Shadow Mountain Lake, Arapaho National Recreation Area, each summer to manage the aquatic weeds on the lake to preserve waterfowl habitat and improve boating. Have the weed harvester operating on the lake by the summer of 1994, preferably before July 4th.

To preserve fish and waterfowl habitat while keeping a reasonable amount of the lake free of weeds, a detailed operating plan will be drafted each year before the harvester operates on the lake. This operating plan will set aside areas that the District Wildlife Biologist feels are desirable for fish and wildlife habitat. These areas will be allowed to become weed infested, and may include up to 20 percent of the lake's surface; although channels may be cut through these areas for boat access, the areas will be dedicated to fish and wildlife habitat.

The areas treated will be prioritized based on the following criteria:

Areas where the harvester WILL operate (not listed by priority):

- Public boat ramps and launches (Greenridge, Hilltop).
- Grand Lake Channel (if the harvester will fit under the bridge and is able to maneuver).
- In front of Shadow Mountain Picnic Area, away from the wetlands.
- Marinas (Shadow Mountain and Trail Ridge Marinas).

Areas of secondary priority:

- Association boat docks.
- Areas of significant general public use.

Areas of lowest priority:

- Private boat docks.
- Strips through weeds every 40 feet for fishing if not covered in above categories.

Areas where the harvester will NOT operate:

- The North Fork Colorado River delta.
- Qualified wetlands.
- In the "no motor boat" areas around the islands (except for a narrow path cut for canoes) and in the Shadow Mountain Village cove (except for access to the Forest Service docks and boat launch, and near the Shadow Mountain Picnic Area).

Operate the weed harvester five days per week during the summer, weather permitting. Do not operate the harvester on weekends or holidays. The summer season is expected to extend from mid-June (if weeds are accessible) through September (if the effects of operating after Labor Day extend into the following summer). This gives a potential operating season of about 80 working days. With normal weather, 60 to 65 operating days are expected.

The expected production for a weed harvester on Shadow Mountain Lake is up to four acres of weeds harvested per day. Because of down time, travel time, non-optimum conditions, areas that require more than one treatment per year, and other reasons, it is expected that the average accomplishment will be closer to two acres per day. This gives an average of 120 to 130 acres treated per year. Some areas may require more than one treatment per year. Appendix C contains the 1994 operating plan.

Encourage lake users to participate in the planning, financing, and operation of the harvester to the full extent allowed by law so they will have ownership in the harvester's operation. The cost of this alternative is between \$13,350 and \$29,700 per year. The *Financing the Operation and Maintenance of an Aquatic Weed Harvester on Shadow Mountain Lake* contains estimates of the cost of operating the aquatic weed harvester, both on a per year and per acre basis, as well as the proposed plan for financing its operation.

Dispose of all weeds at the Sunset Borrow Pit unless a better area is found.

Mitigation Measures -

1. To prevent damage to wood frog habitat, tiger salamander habitat, or sensitive shore bird habitat the weed harvester will not operate close to qualified wetlands.
2. The aquatic weed harvester will not operate near known beaver lodges to prevent impacts on river otters, nor will the harvester operate within 200 feet of active osprey nests, other than to travel around the lake, from May 1 through September 1.
3. To preserve fish and waterfowl habitat while keeping a reasonable amount of the lake free of weeds, an operating plan will be prepared each year before the harvester operates on the lake. This operating plan will set aside areas that the District Wildlife Biologist feels are desirable for fish and wildlife habitat. These areas will be allowed to become weed infested, and may include up to 20 percent of the lake's surface; although channels may be cut through these areas for boat access, the areas will be dedicated to fish and wildlife habitat.
4. Coordinate with the Colorado Division of Wildlife to make sure the weed harvester's operation does not interfere with their operations around the lake.

Monitoring -

1. Monitor the number and type of comments received while the weed harvester is operating.
2. Take pictures of the lake at the end of the summer of areas where the harvester operated and where it did not operate to determine its efficiency. Examine areas harvested after Labor Day the following summer to determine if it is efficient to operate the harvester after Labor Day. Monitor the number and location of acres treated and determine if treatment affects extend for more than one season.
3. Monitor the phytoplankton (algae) and nutrient levels within the lake. Determine if phytoplankton blooms increase or decrease as a result of weed harvest, if nutrient levels are affected, and if water clarity is affected. If water becomes clearer as a result of weed harvest, determine if the weeds spread into deeper water.

4. Monitor weed harvesting affects on waterfowl. Determine if nesting activity is affected and if there is an increase or decrease in waterfowl use of the lake during the summer and fall.

This alternative was developed as a result of the Bureau of Reclamation purchasing the Aquatic Weed Harvester for the Forest Service. Before the harvester can operate on the lake the environmental consequences must be analyzed and its operation financed.

Both alternatives are consistent with Forest Plan Management Direction and with the Management Area Prescription (1A-1, 2B, and 4B, Forest Plan, pages III-99 through III-101, III-129 through III-137, and III-146 through III-155) for the area where the proposed action will take place. Either of these alternatives could be implemented without amending the Forest Plan.

Environmental Consequences

This section describes the environmental effects of the two alternatives.

Location Of The Project Area

The *project area* is that area where Forest Service activities would take place. The proposed action involves Shadow Mountain Reservoir and Grand Lake, located within Sections 4, 5, 6, 7, 8, 18, and 19, Township 3 North, Range 75 West; and Sections 12, 13, and 24, Township 3 North, Range 76 West, Grand County, Colorado. Also affected will be the Sunset Borrow Pit located near Lake Granby off of the Arapaho Bay Road (Forest Development Road 125) in Section 11, Township 2 North, Range 76 West. Shadow Mountain Lake and the Sunset Borrow Pit are located on National Forest System land and are within the Arapaho National Recreation Area (ANRA), Sulphur Ranger District, Arapaho National Forest. Grand Lake, although adjacent to the National Forest, is outside the Forest's boundary. Grand Lake and Shadow Mountain Reservoir are connected by a channel and adjacent to Rocky Mountain National Park. (Map, Page 2)

Affected Environment

The *affected environment* is that area in and around the project area which will experience physical and biological consequences as a result of the actions taken in each alternative. The affected environment generally is limited to the Colorado-Big Thompson (CBT) Water Project including Shadow Mountain Lake, Lake Granby, Grand Lake, the streams and channels connecting these lakes, and the adjacent shore. Most of the environmental effects resulting from the proposed actions would take place within these lakes and streams. The longest lived effect will be biological and may be evident for one to five years.

Environmental Consequences

This section describes the elements of the environment likely to be affected by the alternatives and discusses the direct and indirect environmental consequences of these actions. Two terms are important to this discussion. An *irreversible commitment of resources* results from actions altering an area to the extent that it cannot be returned to its undisturbed condition through perpetuity or for a long period of time; or it is a commitment which completely utilizes a non-renewable resource. *Irretrievable commitments* are changes

induced in the environment which cannot be called back, including lost production or lost use of renewable resources due to the passage of time.

Neither of the alternatives constitute an irreversible nor irretrievable commitment. Removing the aquatic vegetation from approximately ten percent of the lake each year should have only a minor, short term affect on all resources. If all attempts at aquatic vegetation management were stopped, the lake would return to its pre-drawdown (pre-1990) state in less then 20 years.

Physiography, Geology, and Soils

The affected environment in terms of physiography, geology, and soils includes Shadow Mountain Lake, Lake Granby, Grand Lake, the streams and channels connecting these lakes, and the adjacent shore. The adjacent shoreline varies from flat to steep, with much of the private land developed. Slopes vary from 0 to greater than 70 percent and occur on all aspects. Elevations range from 8,200 to 8,400 feet; Shadow Mountain Lake's spillway is at 8,367 feet.

Water and Fisheries

The affected environment in terms of water includes Grand Lake, Shadow Mountain Lake, Lake Granby, the Alva B. Adams Tunnel, and all connecting streams and channels.

Grand Lake, the largest natural lake in Colorado, is connected to Shadow Mountain Lake by a navigable channel. The 500 acre lake is 226 feet deep and has been a major recreation lake since the late 19th century. It is heavily used for boating, fishing, water skiing, and as an aesthetic backdrop for shoreline summer homes and recreation activities. Grand Lake is kept at its natural pool level and has Rainbow, Lake (Mackinaw), and Brown Trout.

Shadow Mountain Lake was created and is used as a canal to carry water pumped from Lake Granby to Grand Lake and through the Adams Tunnel. It is now a major recreation reservoir heavily used for boating, fishing, water skiing, birdwatching, and as an aesthetic backdrop for shoreline summer homes and recreation activities. It has a surface area of 1,356 acres, a maximum depth of 37 feet, and a mean depth of 10 to 12 feet with 600 acres less than 12 feet deep. The lake has been kept at or near full pool since construction except during the two drawdowns in 1990 and 1991. Rainbow, Brown, Cutthroat, and Brook Trout are found in the lake.

Lake Granby, a 7,256 acre reservoir used for water storage for the CBT Project, has a maximum depth of 221 feet and 45 miles of shoreline. Water stored in the lake is pumped to Shadow Mountain Lake through a canal. From there water flows to Grand Lake and down the Adams Tunnel. Lake Granby is at maximum pool level for the year in July, the lake's pool level then drops the rest of the year, with the average drop being about 30 feet; the lake is at full pool about once every ten years. Lake, Rainbow, Brown, Cutthroat, Brook Trout and Kokanee Salmon are found in Lake Granby.

Water from the CBT Project flows from the three lakes through the Alva B. Adams Tunnel to the Eastern Slope where it helps meet the domestic and irrigation needs for the Northern Colorado Water Conservancy District and creates hydroelectric power at five power plants operated by the Bureau of Reclamation.

Alternative 1 - No Action

<i>The Effects</i>	Water quality will remain the same. There will be no change in the Colorado-Big Thompson Project.
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The aquatic vegetation will, over time, become as dense as it was prior to the 1990 drawdown. Fish in Shadow Mountain Lake may fail to reach their maximum potential, as much of their food source will be beyond their reach within the dense vegetation thickets. The dense thickets will act as shelter for small fish.

In order to maintain a weed free recreation experience on Shadow Mountain Lake there will need to be a lake drawdown approximately every three to five years, with considerable expense, if the weed harvester is not used.

There will be little or no impact on the other lakes and streams.

Alternative 2 - Operate the Harvester on the Lake

The Effects Harvesting aquatic weeds from Shadow Mountain Lake will remove excess nutrients from the lake over time. This will improve the water quality and water clarity of the lake after several years of full harvester operation. Reducing the amount of nutrients in the lake will reduce the occurrence of algal blooms, or at least reduce the extent of the blooms. Increasing the water clarity could cause the aquatic vegetation to migrate into deeper waters as sunlight reaches into the deeper areas of the lake. All effects on Shadow Mountain Lake will extend into Grand Lake to some degree.

Fishing may improve from the aquatic weed harvester cutting strips through the vegetation thickets to the shore, then moving over approximately 40 feet along the shore and cutting another strip. This gives an edge effect for fish habitat and provides a weed free area for anglers.

Water quality in Lake Granby will remain the same.

Aquatic Vegetation

Because of its shallow depth, approximately 60 percent of Shadow Mountain Lake can support dense thickets of aquatic vegetation (aquatic macrophytes), predominantly common elodea (*Elodea canadensis*), coontail (*Ceratophyllum demersum*), and curlyleaf pondweed (*Potamogeton crispus*). None of these plants are native to the area (Weber, 1976) and were probably inadvertently introduced by boaters from plants on their boat's propellers. Because these plants are not native to the area, or desired by most people, they are referred to as "weeds" by most who use the lakes.

Prior to the 1990 drawdown approximately 60 percent of the lake had a weed problem that interfered with boating, waterskiing, and fishing. The plants grew in dense thickets that excluded large fish from parts of the lake; small fish used these areas for cover. Aquatic vegetation had been a nuisance since shortly after the lake was formed. Prior to aquatic vegetation becoming a problem the lake was subject to algal blooms (Nelson, 1982).

Algal blooms were a problem in Grand Lake from 1947, the year after Shadow Mountain Lake was filled, until the summer of 1954 when aquatic vegetation became abundant. The State of Colorado Public Health Department in 1953 "determined conclusively" that Shadow Mountain Lake was the source of algae in Grand Lake (Technical Sub-Committee, 1954 quoted in Nelson, 1982).

Some aquatic plants are found in Grand Lake, a result of vegetation "islands" from Shadow Mountain Lake floating through the channel and rooting in the littoral (shallow) zone of Grand Lake. Ten percent or less of Grand Lake has favorable habitat for plant growth.

Lake Granby does not have an aquatic vegetation problem because of its yearly lake level fluctuation and water depth. When the lake level is up the flooded terrestrial vegetation can become a minor irritant to anglers.

Some emergent plants are found in the shallow areas and wetlands around Shadow Mountain Lake, mainly cattail, orchids, sedges, and willows.

The 1990 and 1991 drawdowns had an affect on the vegetation within Shadow Mountain Lake. There were fewer vegetation "islands" observed in the lake during the summers of 1991, 1992, and 1993, as well as less interference with boating and fishing by aquatic weeds. By late summer, 1993, the aquatic weeds were beginning to re-establish themselves in the shallow zones of the lake.

Alternative 1 - No Action

The Effects Aquatic plants will eventually cover approximately 60 percent of the lake bed of Shadow Mountain Lake. The amount of vegetation, as well as the problems the aquatic plants cause to boaters, waterskiers, and anglers, will fluctuate from year to year and is affected by temperature, cloud cover, boat traffic, and nutrient levels.

Floating "islands" of vegetation will become a nuisance to boaters and waterskiers. These "islands" float into Grand Lake, establishing themselves in ten percent of the lake, and clog the fish screens at Shadow Mountain Dam.

There will be little affect on the other lakes and streams. Algal blooms will become less frequent as the weeds increase.

Alternative 2 - Operate the Harvester on the Lake

The Effects Harvesting aquatic weeds from Shadow Mountain Lake will remove excess nutrients from the lake over time, improving the lake's water clarity. Increasing the water clarity could cause the aquatic vegetation to migrate into deeper waters as sunlight reaches into the deeper areas of the lake.

Keeping Shadow Mountain Lake free of aquatic weeds is primarily a desire of people who use the lake for recreation. Neither the Bureau of Reclamation, who built and maintain the lakes and dams, or the Northern Colorado Water Conservancy District, who uses the water from the lakes, cares if there are weeds. Therefore, maintaining areas of heavy recreation use free of aquatic weeds should prolong the period between lake draw-downs, or minimize the need for another drawdown, as long as the amount of weeds in the lake do not significantly interfere with recreational activities, even if weeds are allowed to proliferate in other parts of the lake.

Some areas will remain untreated. In three to five years these areas could develop dense thickets of vegetation that exclude most recreation activities. The areas left untreated will be selected because of their quality waterfowl habitat. Most of the probable untreated areas are closed to motorized boats and are traditionally used by canoes; canoes are relatively unaffected by the weeds.

There will be little affect on the other lakes and streams.

Cultural Resources

No cultural resource inventory was done before Shadow Mountain Lake was filled. Cultural resources were monitored during the 1990 and 1991 drawdowns, and several sites were found and inventoried.

Alternative 1 - No Action

The Effects Cultural sites will remain flooded. Sites subject to deterioration will continue to deteriorate. Sites will eventually be covered by silt.

Alternative 2 - Operate the Harvester on the Lake

The Effects Same as Alternative 1, although there is a slight chance that sites within five feet of the water's surface will receive damage if the aquatic weed harvester's cutting blade hits them. The operator of the harvester will, at all times, be trying to avoid hitting the lake bottom with the blade, so the chance of this happening is minimized.

Visual Resource

Except during the 1990 and 1991 drawdowns, Shadow Mountain Lake has been at or close to full pool since it was filled in 1946. That, coupled with the fact that the lake is adjacent to Rocky Mountain National Park and is surrounded by mountains, makes it one of the most scenic lakes in Colorado.

The aquatic weeds detract from the lake's beauty when they reach the surface in July and August. The plants can give the lake an appearance of eutrophication, or being older and closer to demise than it is.

The lake and surrounding area has a Visual Opportunity Spectrum (VOS) rating of fg1A/R, where:

Distance Zone	= Foreground (fg)
Sensitivity Level	= 1
Variety Class	= A
Quality Objective	= Retention (R)

This means that human activity should not be evident to the casual forest visitor because the area is a major lake that has high fishing and boating use.

Since the drawdowns, the lake's appearance is greatly improved because of a lack of aquatic plant growth.

Alternative 1 - No Action

The Effects The lake will revert back to its pre-1990 condition. The lake will begin each year relatively free of vegetation, but as the vegetation grows the visual appearance of the lake will deteriorate. The extent of the deterioration will vary from year to year and is a function of plant growth.

Alternative 2 - Operate the Harvester on the Lake

The Effects Unharvested portions of the lake will revert back to their pre-1990 condition. They will begin the year relatively free of vegetation, but as the vegetation grows their visual appearance will deteriorate due to the weeds. The extent of the deterioration will vary from year to year and is a function of plant growth.

Treated portions of the lake will remain relatively free of weeds. Weed "islands" will be removed from the lake by the harvester. As the harvester will work in areas where the majority of the recreation use occurs, the lake will appear to be relatively free of weeds. Those areas left untreated will continue to have a waterfowl population, increasing their visual appeal because of the waterfowl.

Insects and Invertebrates

Much of the aquatic insect and invertebrate life in Shadow Mountain Lake lives in plant thickets in the shallow parts of the lake.

Alternative 1 - No Action

The Effects The lake will revert back to its pre-1990 drawdown condition. The insect and invertebrate population within the aquatic plant thickets will become unreachable by the larger fish and will not be a main part of the food chain. Fish in the lake will not reach their full potential.

Alternative 2 - Operate the Harvester on the Lake

The Effects Some insects and invertebrates, along with some of the lake's crayfish, will be removed from the lake during the harvester's operation. Many of these will either die or become prey to birds and small terrestrial animals.

In those plant thickets thinned by the harvester, larger fish in the lake will more easily reach the insects and invertebrates that reside within the thickets.

The population of insects, invertebrates and crayfish within the lake is large enough that the above effects will have no significant impact on their population.

Social Effects

The private land adjacent to Shadow Mountain Lake is close to 100 percent developed. Many of these land owners expect the Forest Service to pay for managing the aquatic weeds within the lake at no cost to themselves.

Many businesses, both on or near the lake, depend to some extent on the tourist traffic generated by the lake.

Alternative 1 - No Action

The Effects The lake will revert back to its pre-1990 drawdown condition, with little change from the current situation in the short term. The steady increase in recreation use of the lake anticipated over the long term will cause an increase in selling values of lake front cabins and an increase in tourist traffic in Grand Lake and around Shadow Mountain Lake.

Because of the cost involved, and the Forest Service's decreasing budget, there is little chance that another drawdown of Shadow Mountain Lake will occur in the near future (ten years or less).

Alternative 2 - Operate the Harvester on the Lake

The Effects

The steady increase in recreation use of the lake anticipated over the long term will cause an increase in selling values of lake front cabins and an increase in tourist traffic in Grand Lake and around Shadow Mountain Lake.

With the Forest Service budget decreasing each year, it is unlikely that the Forest Service will be able to finance the aquatic weed harvester's operation without outside financial help. *Financing the Operation and Maintenance of an Aquatic Weed Harvester on Shadow Mountain Lake* contains the proposed plan to finance the harvester's operation.

Because of the cost involved, and the Forest Service's decreasing budget, there is little chance that another drawdown of Shadow Mountain Lake will occur in the near future (ten years or less).

Wildlife

Threatened and Endangered Species

Bald Eagle (<i>Haliaeetus leucocephalus</i>)	The bald eagle is considered "endangered" by the U.S. Fish and Wildlife Service (USFWS). The bald eagle winters below Shadow Mountain Dam, arriving in mid-October, and leaving the area in February or March.
Wood Frog (<i>Rana sylvatica</i>)	The wood frog is listed as "threatened" by the Colorado Division of Wildlife (CDOW). Populations are known in the Kawuneeche Valley, Rocky Mountain National Park, and in the ponds near Columbine Lake approximately one mile west of Shadow Mountain Lake. Wood frogs were reported in small ponds near Pine Beach in 1978 and 1982. Although the wood frog has a high susceptibility to habitat alteration in the spring, adults are not found near water after August and do not return to their breeding ponds until early May (Haynes & Aird, 1981).
Osprey (<i>Pandion haliaetus</i>)	Although not a threatened or endangered species, the osprey has been designated a species of "special concern" in Colorado by the CDOW. In 1990 there were six active nests on Shadow Mountain Lake. Other osprey in and around the ANRA may use Shadow Mountain Lake for feeding. There has been a steady increase in bird numbers and nesting success in the ANRA over the last several years. Osprey arrive in the area in April and leave before mid-October.
River Otter (<i>Lutra canadensis</i>)	The river otter is considered "endangered" by the CDOW. The otter is found in rivers and lakes in and around the ANRA. River otters rear their young in abandoned beaver lodges.
Tiger Salamander (<i>Ambystoma tigrinum</i>)	The tiger salamander is considered "sensitive" by the USFWS. Tiger salamanders are known to occur along the west shore of Shadow Mountain Lake, using the shallows for breeding and feeding.

Birds are abundant around Shadow Mountain Lake, and there is habitat for several USFWS listed "sensitive" species. These species include the American bittern, greater sandhill crane, long-billed curlew, white-faced ibis, common loon, and black tern. More than 500 geese have staged on the lake in November during past years.

In addition to the above, there is boreal western toad and northern leopard frog habitat around the lake, but no known individuals. Muskrats and beavers also inhabit the lake.

Alternative 1 - No Action

The Effects There will be no effect on the wood frog, bald eagle, tiger salamander, or river otter. Osprey numbers will probably increase. Birds that feed on aquatic plants may increase.

Alternative 2 - Operate the Harvester on the Lake

The Effects Operation of the weed harvester will have no effect on bald eagles and their habitat. The USFWS concurs that there will be "no effect" on bald eagles by the proposed project (Appendix D).

By keeping the harvester away from wetlands, there will be no negative effects on ospreys, river otters, wood frogs, tiger salamanders or their habitat (Appendix D).

There may be minor beneficial effects for the common loon, osprey, and river otter by making food more readily available.

Recreation Resources

The Arapaho National Recreation Area (ANRA) draws people because of water. Fishing, sailing, waterskiing, canoeing, waterfowl hunting, bird watching, and just enjoying the mountain scenery with a lake in the foreground are the primary draws of the area.

Shadow Mountain Lake is a heavily used recreation lake. On an average summer weekend day there may be 75 boats on the lake and 150 people on shore. Although Rocky Mountain National Park is adjacent to Shadow Mountain Lake, most of the people who come to the lake are drawn by the lake and the recreation opportunities it provides. The Park is just another amenity.

Green Ridge Campground, on the south end of the lake, usually has all 84 camp sites occupied every summer weekend. The campground, recently renovated, is under the national reservation system from Memorial Day through Labor Day. Although only in the third year of the reservation system (with one of those years off the system because of construction), Green Ridge had 2,184 nights reserved, or 24 percent of the campground was reserved at least ten days in advance. Most of the remaining sites are occupied by campers who arrive without a reservation. During the week the campground is often at over 90 percent capacity. Most of the campers who use Green Ridge come to the area because of Shadow Mountain Lake, either to fish, boat, or waterski.

Three sides of the lake's shoreline is mostly private land. Most of the private land has single family homes, summer cabins, or multi-family structures; there are almost no vacant lots along the shore. There are a few rentals available adjacent to the lake, one trailer park, and one private campground (there are also private campgrounds nearby). There is a 790 site Recreational Vehicle park proposed on private land near the lake. There are two marinas on the lake. In addition to the Green Ridge Campground, the Forest Service has two picnic areas and two boat ramps on the lake.

Most of the east shore of the lake is within Rocky Mountain National Park.

The lake is connected with Grand Lake by a navigable channel, thereby giving Shadow Mountain Lake access to the village of Grand Lake with all its amenities.

Shadow Mountain Lake is close to Lake Granby with its two major Forest Service Campgrounds, and to Willow Creek Reservoir with its one campground. In addition, on any summer weekend hundreds of people will camp in the surrounding National Forest land adjacent to the ANRA because they can not find a campsite within one of the developed campgrounds.

Because the majority of the recreation activity connected with Shadow Mountain Lake involves water, the aquatic weeds within the lake have a major affect on that recreation and the resulting quality of the recreation experience.

Alternative 1 - No Action

The Effects There will be little or no change in the short term over the current conditions. In time the aquatic weeds will increase, eventually reaching their pre-1990 condition. Because of the weeds, some recreationists will not have the quality recreation experience they expected.

Although the increase in recreation use may be less than would occur without an increase in weeds, there will be a steady increase in recreation use over the long term.

Alternative 2 - Operate the Harvester on the Lake

The Effects There will be little or no change in the short term over the current conditions. In time, the aquatic weeds will increase in the areas left untreated, eventually reaching their pre-1990 condition.

In areas that are treated, such as around the boat ramps and marinas, the weeds will be kept under control. Most recreationists, if they stay in the well traveled, treated parts of the lake, will have the quality recreation experience they expected.

Some areas of the lake that are left untreated will become clogged with aquatic weeds, becoming impassible for some boats and waterskiers. The western channels between the islands and the area around Pine Beach will become impassible to all but canoes or row boats, but these areas are closed to motorized boats.

Parts of the lake will be left unharvested; these areas will revert back to weed covered waterfowl habitat similar to what existed before the 1990 drawdown. In these areas waterfowl hunting should be at least as good as it was prior to the 1990 drawdown. Fishing success may improve.

The quality of all forms of boating recreation should improve over what they were prior to the 1990 drawdown, but, as the aquatic weeds increase, some areas of the lake surface will become clogged with weeds and closed to some forms of motorized boat recreation. The amount of the lake surface that becomes clogged with weeds should be substantially less than was clogged before the 1990 drawdown.

The weed harvester will be able to keep the main travel ways free of weeds, thereby improving the quality of the recreation experience.

There will be a steady increase in recreation use over the long term.

Cumulative Effects

The kinds of cumulative effects looked for include the additive effects of repeated developments on the environment, repeated removal of materials or organisms from the environment, precedent-setting developments which might stimulate other activities, significant environmental changes over large areas and long periods of time, fundamental changes in the behavior of the ecological systems of the project area, and severe habitat fragmentation.

Past Actions - Past actions that may have a cumulative effect on Shadow Mountain Lake are:

- **Private Land Development:** Most of the surrounding private land is developed, much of it recently.
- **Lake Drawdowns in 1990 and 1991:** These drawdowns temporarily reduced the amount of aquatic weeds within the lake. Recreational lake use has increased, although waterfowl numbers may be down.
- **U. S. Forest Service Recreation Development:** Green Ridge Campground and Boat Ramp were renovated in 1992. Shadow Mountain and Pine Beach Picnic Areas and the Hilltop Boat Ramp are also Forest Service developed recreation sites on the lake.
- **Recreational Use:** The lake has been heavily used by recreationists almost since it was first filled in 1946. Use includes boating, fishing, sailing, water skiing, and relaxation.

Present Actions - Present actions that have a cumulative effect on Shadow Mountain Lake are:

- **Private Land Development:** Development on private land is continuing. A 790 site Recreational Vehicle (RV) park is proposed for private land adjacent to the lake.
- **U. S. Forest Service Recreation Development:** Hilltop Boat Launch will be renovated, as will the nearby Double A Bar Ranch.
- **Recreational Use:** Recreational use is expected to continue at present levels or increase.
- **Scenic Byway:** U. S. Highway 34 was designated a Scenic Byway in September, 1993.

Future Actions - These are actions that will take place within a reasonably expected future of five to ten years. Anticipated future actions that will have a cumulative effect on Shadow Mountain Lake are:

- **Private Land Development:** Private land will continue to be developed until all private land is developed. The 790 site RV park may or may not be developed.
- **Recreational Use:** Recreational use is expected to continue at present levels or increase. Some other forms of recreation use, such as jet skis, may increase.
- **U. S. Forest Service Recreation Development:** Pine Beach Picnic Area will be renovated.
- **Scenic Byway:** U. S. Highway 34 is a designated Scenic Byway.

Affected Environment - The Affected Environment is that area in and around the project area which will experience physical and biological consequences as a result of the actions taken, this includes the area outside the analysis area that is affected by actions that take place within Shadow Mountain Lake or where an action that takes place may impact Shadow Mountain Lake. The affected environment generally is limited to the Colorado-Big Thompson (CBT) Water Project including Shadow Mountain Lake, Lake Granby, Grand Lake, the streams and channels connecting these lakes, and the adjacent shore.

Within the Affected Environment there are several sensitive habitats and wildlife species. A habitat is sensitive if it is critical, or is perceived to be critical, to some wildlife species. The sensitive habitats in the Shadow Mountain Lake area are wetlands.

A wildlife species is considered sensitive if it is a narrow-niche species where habitat modification could be critical to its survival, or if it is listed as Threatened, Endangered or of Special Concern by either the U. S. Fish and Wildlife Service or the State of Colorado. Sensitive wildlife species that might be found within the Shadow Mountain Lake area include bald eagle, wood frog, osprey, river otter, and tiger salamander.

Consequences - The kinds of actions looked for have an effect that, when combined with other actions, may extend beyond the actions' immediate time and/or place; i.e., that together have an effect on the environment. Unless otherwise noted, only those consequences that will take place over the next ten years are included. Cumulative effects could be positive or negative.

The preferred alternative, Alternative 2 with mitigations, is the proposed project. The cumulative effects for the No Action alternative can be inferred from the discussion of Alternative 2.

Cumulative effects will occur to water quality, recreation, and wildlife.

- (a) *Water Quality* - The cumulative effect is changes in water quality within Shadow Mountain Lake and Grand Lake from removal of aquatic weeds and the nutrients associated with those weeds.

Shadow Mountain Lake is a flooded river valley that had been used as pasture for decades before being flooded. For many years after flooding much of the sewage from public and private development was dumped into the river with no treatment or inadequate treatment. The result was a lake with a high nutrient content. This showed up by heavy algal blooms in the early fifties followed by dense aquatic weed growth in later years.

Three Lakes Water and Sanitation District has connected all or most of the property in the area to their sewage system. This has eliminated the main source of contaminants for Shadow Mountain Lake. Many of these excess nutrients, though, are still within the lake, either within the sediment at the bottom of the lake or within the organic mass associated with the aquatic weeds.

Removing the aquatic weeds will remove much of the excess nutrients within the lake. Over time, as the weeds are removed, the lake's clarity will improve, as will the water quality. As the lakes clarity improves, though, it is possible the weeds will move into deeper waters because sunlight will be able to penetrate deeper into the lake.

- (b) *Recreation* - Some form of recreation is impacted by almost every action that has or will occur in the Shadow Mountain Lake area. Depending on the recreation activity, activities could be perceived as either positive or negative.

Lakeside development is considered beneficial by the person doing the building, but negative by the person who wants seclusion. The scenic byway will increase recreation traffic in the area. Campgrounds are an amenity enjoyed by those who camp there, but an annoyance to neighbors or those who do not want additional people intruding on "their" place. Boat ramps allow people to easily launch their boats, but also put more boats on the lake.

The aquatic weeds impact recreation by keeping boats out of weed clogged parts of the lake. This can be as minor as an inconvenience to a water skier, or as major as preventing a shore line property owner from using their boat dock. Weeds in an area can prevent power boats from going into a part of the lake, but still allow a canoe. The person in the canoe will like the serenity of no power boats, but the person in the power boat will resent having a part of the lake excluded from their recreation activity.

The 1990 and 1991 drawdowns opened up all of the lake to all forms of recreation. Water skiers are using parts of the lake that a canoe could not use during the summer of 1990. In time, as the weeds grow back in the areas that are not harvested, more of the lake will become clogged with weeds. These areas will again become so weed infested that people will not take their boats into them. Eventually this may mean that as much as 20 percent of the lake will become so clogged with weeds that only limited amounts and types of recreation can take place there. Water skiers, and those with power boats or sail boats, will probably stay away from these areas, but canoeists and anglers will still enjoy them.

In time, recreation activities will become segregated. Canoeists and anglers will use the areas with weeds, power boats and sail boats will use the open water. Keeping the weeds out of the main travel ways with the harvester will benefit all recreationists.

- (c) *Wildlife* - The proposed project should not adversely affect any Federal or State threatened, endangered or sensitive species or their habitat.

Prior to the 1990 drawdown the weeds were dense enough to affect the feeding habits of wildlife species that fed on fish (ospreys, eagles and otters are examples). Reducing the area covered by dense thickets of aquatic weeds opened up more of the lake as feeding grounds for these species.

Riparian and wetland habitats are critical for several species in the area. The proposed project will stay away from qualified wetlands to prevent damage to critical habitat.

Waterfowl who use the lake either during migration or for nesting often feed on the aquatic weeds. The two drawdowns eliminated much of the weeds, thus eliminating part of their food source. This was indicated by reduced numbers of waterfowl in the area during the past couple of years. Allowing weeds to grow in parts of the lake will allow this source of food to again be found in the lake. Waterfowl numbers are expected to increase as the aquatic weeds increase.

Once the aquatic weeds re-vegetate the unharvested portions of the lake, the proposed project will not alter the mix, arrangement and internal characteristics of plant and animal habitats in any significant or repeated fashion, although parts of the lake will not be allowed to become weed clogged. No potential cumulative effects are expected to affect threatened or endangered fish and wildlife species.

The project is not precedent-setting. It will not automatically trigger other projects which might have similar effects in this area. The project is an independent action. Future actions which may be proposed by the Forest Service in coming years will be studied and an independent analysis made of the cumulative effects of those actions in accordance with the Council on Environmental Quality procedures.

Coordination and Consultation

All comments received through the public involvement process were addressed in developing the list of issues, concerns and opportunities which guided analysis of the proposed action. The issues, concerns and opportunities are presented on page 7 of this Environmental Assessment.

Members of the Public Who Commented On The Proposed Project

Jim and Lorraine Alsum, Grand Lake Estates Homeowners Assoc., Denver, CO
Robert Anderson, Grand County Commissioners, Granby, CO
Jake Bennett, Colorado Division of Wildlife, Granby, CO
Will Bublitz, Ski High News, Granby, CO
David F. Butler, Shoreline Landing Homeowner's Assn., Greenwood Village, CO
Jerry Claassen, Colorado Division of Wildlife, Grand Lake, CO
Wendell Funk, Grand Lake, CO
Carl J. Lundstrom, Arvada, CO
Jerry Piechocki, Grand Lake, CO
Darwin Rutledge, Northern Colorado Water Conservancy District, Granby, CO
Gordon Scheer, Three Lakes Communities Association, Littleton, CO
Shirley Scheer, Three Lakes Communities Association, Littleton, CO
Eugene Tardy, Upper Colorado River Lakes Protection Association, Denver, CO
Noble Underbrink, Northern Colorado Water Conservancy District, Granby, CO
Stoddard White, Grand Lake, CO
Buddy Woodward, Trail Ridge Marina, Grand Lake, CO

Interdisciplinary Team

<i>Member</i>	<i>Area Of Responsibility</i>
Richard Caissie	ID Team Leader -- District Recreation and Resources Staff
George Edwards	District Ranger
Paula McSemek	Lands and Special Uses Technician
Doreen Schmidt	Wildlife Biologist
Cindy Southway	Public Affairs Specialist

Agencies and Organizations Consulted

Grand County Commissioners
Colorado Division of Wildlife
Upper Colorado River Lakes Protection Association
Northern Colorado Water Conservancy District
Grand Lake Estates Homeowners Assoc.
Shoreline Landing Homeowners' Assn.
Three Lakes Communities Association
Town of Grand Lake

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Appendix A

Public Law 94-450

Public Law 95-450
95th Congress

An Act

To create the Indian Peaks Wilderness Area and the Arapaho National Recreation Area, to authorize the Secretary of the Interior to study the feasibility of revising the boundaries of the Rocky Mountain National Park, and to add certain lands to the Oregon Islands Wilderness.

Oct. 11, 1978

[H.R. 12026]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE

SECTION 1. This Act may be cited as the "Indian Peaks Wilderness Area, the Arapaho National Recreation Area and the Oregon Islands Wilderness Area Act".

FINDINGS AND PURPOSES

SEC. 2. The Congress finds that it is in the national interest—

(1) to include the land within the Arapaho and the Roosevelt National Forests known as the Indian Peaks Area in the National Wilderness Preservation System so as to protect the area's enduring scenic and historic wilderness character and its unique wildlife and to preserve the area's scientific, educational, recreational, and inspirational resources and challenges; and

(2) to create the Arapaho National Recreation Area within the Arapaho and the Roosevelt National Forests and the Colorado Big Thompson project so as to preserve and protect the natural, scenic, historic, pastoral, and wildlife resources of the area and to enhance the recreational opportunities provided.

Indian Peaks
Wilderness Area,
the Arapaho
National
Recreation Area
and the Oregon
Islands
Wilderness Area
Act.

16 USC 460jj

note.

16 USC 460jj

note.

INDIAN PEAKS WILDERNESS AREA

SEC. 3. (a) An area of land comprising approximately seventy thousand acres located in Boulder and Grand Counties, Colorado, within the Arapaho and the Roosevelt National Forests (as generally depicted as the "Indian Peaks Wilderness Area" on a map entitled "Indian Peaks Wilderness Area and Arapaho National Recreation Area", dated July 1978) is designated for purposes of the Wilderness Act (16 U.S.C. 1131-1136) as a wilderness area and shall be known as the Indian Peaks Wilderness Area.

16 USC 1132
note.

(b) The Indian Peaks Wilderness Area shall be administered by the Secretary of Agriculture (hereafter in this Act referred to as the "Secretary") pursuant to those provisions of the Wilderness Act which govern areas designated by that Act as wilderness areas, except that any reference in such provisions to the effective date of the Wilderness Act shall be deemed to be a reference to the effective date of this Act.

Administration.

ARAPAHO NATIONAL RECREATION AREA

SEC. 4. (a) An area of land comprising approximately thirty-six thousand two hundred thirty-five acres located in Grand County, Colorado, within the Arapaho and the Roosevelt National Forests and the Colorado Big Thompson project (as generally depicted as the

16 USC 460jj.

"Arapaho National Recreation Area" on a map entitled "Indian Peaks Wilderness Area and Arapaho National Recreation Area", dated July 1978) is established as the Arapaho National Recreation Area.

Administration.

(b) The Secretary shall administer the Arapaho National Recreation Area, in accordance with the laws and regulations applicable to the national forests, in such a manner as will best provide for—

- (1) public recreation and enjoyment;
- (2) the conservation and development of the scenic, natural, historic, and pastoral values of the area;
- (3) the management, utilization, and disposal of natural resources such as timber, grazing, and mineral resources so that their utilization will not substantially impair the purposes for which the recreation area is established; and
- (4) the management of water quality in the recreation area consistent with the development of needed water supply and waste-water systems, including the control of aquatic vegetation in the streams, lakes, and reservoirs within the recreation area.

Management plan.

(c) The Secretary shall develop an overall management plan for the Arapaho National Recreation Area. This plan shall be developed in consultation with State and local political subdivisions and other interested persons.

RECREATION AREA

Land acquisition.
16 USC 460jj-1.

SEC. 5. (a) (1) The Secretary is authorized to acquire by donation, purchase with donated or appropriated funds, exchange, or bequest, any lands or lesser interests therein, including mineral interests and scenic easements, which the Secretary determines are needed to establish and manage the Arapaho National Recreation Area. In determining what private property is needed to establish and manage the Arapaho National Recreation Area the Secretary shall utilize the approved county zoning plan to identify those properties whose use or intended use is not in conformance with the overall intent of this Act.

"Scenic easement."

(2) As used in this section, the term "scenic easement" means the right to control the use of land in order to carry out this Act, but shall not preclude the continuation of any use that is compatible with the overall management plan for the Arapaho National Recreation Area developed pursuant to subsection (c) of section 4.

(b) In exercising the authority conferred by this section to acquire lands, the Secretary shall give prompt and careful consideration to any offer made by an individual owning any land, or interest in land, within the Arapaho National Recreation Area. In considering any such offer, the Secretary shall take into consideration any hardship to the owner which might result from any undue delay in acquiring the property. Purchases made under this authority shall be made on a willing buyer, willing seller basis.

(c) In exercising the authority conferred by this section to acquire property by exchange, the Secretary may accept title to any non-Federal land, or interests therein, located within the Arapaho National Recreation Area and the Secretary may convey in exchange therefor any federally owned lands or interests in lands within the State of Colorado which are classified by the Secretary as suitable for exchange and which are under the Secretary's administrative jurisdiction. The values of any lands or interests in lands so exchanged shall be approximately equal, or if they are not approximately equal, they shall be equalized by the payment of cash to the grantor or to the Secretary so long as payment does not exceed 25 per centum of the total value

of the land or interest in land. In utilizing cash equalization in exchanges the Secretary shall try to reduce the amount of the payment of money to as small an amount as possible. In the exercise of his exchange authority, the Secretary may utilize authorities and procedures available to him in making exchanges of national forest lands.

(d) Any land or interest in land owned by the State of Colorado or any of its political subdivisions may be acquired only by donation or exchange.

(e) Notwithstanding any other provision of law, any Federal lands or interests in lands located within the Arapaho National Recreation Area shall be transferred without consideration to the administrative jurisdiction of the Secretary for use by the Secretary in carrying out this Act. Lands within the Arapaho National Recreation Area acquired by the Secretary or transferred to the Secretary's administrative jurisdiction shall become part of that recreation area and of the national forest within or adjacent to which they are located: *Provided*, That the operation and facilities of the Colorado Big Thompson project shall remain under the jurisdiction of the United States Bureau of Reclamation.

HUNTING AND FISHING IN THE ARAPAHO NATIONAL RECREATION AREA

SEC. 6. The Secretary shall permit hunting and fishing on lands and waters under the Secretary's jurisdiction within the boundaries of the Arapaho National Recreation Area in accordance with the laws of the United States and the State of Colorado, except that the Secretary may designate zones where, and establish periods when, no hunting or fishing shall be permitted for reasons of public safety, area general administration, or public use and enjoyment. Except in emergencies, any regulations made by the Secretary pursuant to this section shall be put into effect only after consultation with the appropriate State fish and game department. 16 USC 460jj-2. Regulations.

PERMITS FOR FACILITIES AND SERVICES IN THE ARAPAHO NATIONAL RECREATION AREA

SEC. 7. The Secretary shall cooperate with other Federal agencies, with State and local public agencies, and with private individuals and organizations in the issuance of permits for facilities and services in the Arapaho National Recreation Area and the development and operation of those facilities and services. 16 USC 460jj-3.

APPLICATION OF STATE WATER LAWS TO THE ARAPAHO NATIONAL RECREATION AREA

SEC. 8. The jurisdiction of the State of Colorado and the United States over waters of any stream included in the Arapaho National Recreation Area shall be determined by established principles of law. Nothing in this Act shall constitute an express or implied claim or denial on the part of the Federal Government as to exemption from State water laws. 16 USC 460jj-4.

FILING OF MAPS

SEC. 9. As soon as practicable after the date of enactment of this Act, the Secretary shall file a map and legal description of the Indian Peaks Wilderness Area and the Arapaho National Recreation Area 16 USC 460jj-5.

with the Committee on Energy and Natural Resources of the Senate and the Committee on Interior and Insular Affairs of the House of Representatives and such description shall have the same force and effect as if included in this Act, except that correction of any clerical or typographical errors in such map and description may be made. Such map and the map entitled "Indian Peaks Wilderness Area and Arapaho National Recreation Area", dated July 1978, shall be on file and made available for public inspection in the offices of the Chief of the Forest Service, Department of Agriculture.

STATE CIVIL AND CRIMINAL JURISDICTION

- 16 USC 460jj-6. SEC. 10. Nothing in this Act shall diminish, enlarge, or modify any right of the State of Colorado, or any political subdivision thereof, to exercise civil and criminal jurisdiction within the Indian Peaks Wilderness Area or the Arapaho National Recreation Area or of rights to tax persons, franchises, or property, including mineral or other interests, in or on lands or waters within those areas.

AUTHORIZATION OF APPROPRIATIONS

- 16 USC 460jj-7. SEC. 11. Effective October 1, 1979, there are authorized to be appropriated to carry out sections 1 through 10 of this Act \$5,000,000 for the acquisition of lands and interests in lands and \$5,000,000 for water quality and recreation development. Moneys appropriated from the Land and Water Conservation Fund shall be available for the acquisition of lands and interests therein within the Arapaho National Recreation Area.

OREGON ISLANDS WILDERNESS

- 16 USC 1132. SEC. 12. (a) In accordance with subsection 3(c) of the Wilderness Act (78 Stat. 892), certain lands in the Oregon Islands National Wildlife Refuge, Oregon, which comprise approximately four hundred fifty-nine acres, which are depicted on a map entitled "Oregon Islands Wilderness—Proposed", dated June 1972 (revised July 1972), is hereby designated as wilderness and shall become a part of the existing "Oregon Islands Wilderness".

Filing of map
with
congressional
committees.

(b) As soon as practicable after this Act takes effect, the Secretary of the Interior shall file a map and legal description of the Oregon Islands Wilderness with the Committee on Energy and Natural Resources of the Senate and the Interior and Insular Affairs Committee of the House of Representatives and such map and description shall have the same force and effect as if included in this Act: *Provided, however,* That correction of clerical and typographical errors in such legal description and map may be made. A map and legal description of the Oregon Islands Wilderness shall be on file and available for public inspection in the Office of the Director, Fish and Wildlife Service, Department of the Interior.

(c) The lands designated by this Act as the Oregon Islands Wilderness shall be administered in accordance with the applicable provisions of the Wilderness Act governing areas designated by that Act as wilderness areas, except that any reference in such provisions to the effective date of the Wilderness Act shall be deemed to be a reference to the effective date of this Act and, where appropriate, any reference to the Secretary of Agriculture shall be deemed to be a reference to the Secretary of the Interior.

ROCKY MOUNTAIN NATIONAL PARK STUDY

SEC.13. Within one year of the date of enactment of this Act, the Secretary of Agriculture and the Secretary of the Interior shall jointly develop and submit to the Committee on Interior and Insular Affairs of the House of Representatives and the Committee on Energy and Natural Resources of the Senate, a comprehensive report studying and evaluating the suitability of revising the boundaries of Rocky Mountain National Park to include all or part of the Indian Peaks Wilderness Area as established by this Act and examining the possible addition or deletion of other lands designated as "Park Study Area" on a map entitled "Indian Peaks Wilderness Area and Arapaho National Recreation Area" dated July 1978: *Provided*, That regardless of the ultimate administration of the areas to be studied under this section, the seventy thousand-acre Indian Peaks Wilderness Area established by this Act shall remain as a component of the National Wilderness Preservation System.

Report to
congressional
committees.
16 USC 1132
note.

Approved October 11, 1978.

LEGISLATIVE HISTORY:

HOUSE REPORT No. 95-1460 (Comm. on Interior and Insular Affairs).
CONGRESSIONAL RECORD, Vol. 124 (1978):
Sept. 12, considered and passed House.
Sept. 27, considered and passed Senate.

Appendix B

Individuals, Groups, Organizations and Agencies Contacted

Public Notification, Public Involvement and Public Comment On The Proposed Action

The following were contacted by letter, phone, or in person and their comments solicited about the proposed project. These included all the marina and boat dock owners on Shadow Mountain Lake, representatives of environmental organizations who have shown an interest in the District, all who have previously commented on the management of the Arapaho National Recreation Area or Shadow Mountain Lake, and anyone else the District felt might be interested in the management of Shadow Mountain Lake.

Adrian Brown, Shoreline Homeowners Assn., Denver, CO
Alice Bush, Angler's Condominium Assoc., Englewood, CO
Ann Vickery, Conservation Director, Colorado Mountain Club, Boulder, CO
Bernie McGinn, Grand Lake Metropolitan Recreation District, Grand Lake, CO
Betty Kilsdonk, Grand County Historical Association, Hot Sulphur Springs, CO
Jasper Carlton, Director, Biodiversity Legal Foundation, Boulder, CO
Bob Anderson, Granby, CO
Bob Bellamy, Bureau of Reclamation, Loveland, CO
Bob Wall, Grand Lake, CO
Brian Howard, Littleton, CO
Brian Reynolds, Grand Lake, CO
Buddy and Sally Woodward, Trailridge Marina, Grand Lake, CO
C. B. Jensen, Grand Fishing Inc., Winter Park, CO
Carl J. Lundstrom, Arvada, CO
Carol R. Hard, Shadow Mtn. Marina, Escondido, CA
Charles Chalker, Denver, CO
Charley Dye, Colorado Springs, CO
Dale and Virginia Rea, Sun City, AZ
Dale Brown, Granby, CO
Dan Johnson, Fort Collins, CO
Darwin Rutledge, Northern Colorado Water Conservancy District, Granby, CO
David Butler, Littleton, CO
Debra and Helmut Geyer, Loveland, CO
Delmar and Evelyn Schnittker, Bighorn Lodge, Grand Lake, CO
Delos Chappell, Volunteers for Outdoor Colorado, Denver, CO
Don and Marie Holliday, Aurora, CO
Donald Verdorn, Boulder, CO
Douglas Pope, Boulder, CO
Dr. Terrence Toy, Denver, CO
Edward Hoery, Mesa, AZ
Eugene Tardy, Denver, CO
Fred and Janis Schoonmaker, Englewood, CO
Gary A. Greathouse, General Manager, Maxwell Ranch, Fort Collins, CO
Genevieve DesJardins, President, Shoreline Landing Homeowners Association, Grand Lake, CO
Gerald Piechocki, Grand Lake, CO
Gerald Tebockhorst, Grand Lake, CO
Mark Collins, Grand Lake Town Manager, Grand Lake, CO
Harold and Agnes Tiedgen, Sterling, CO
Harold Schneider, Loveland, CO
Harry and Gladys Bigham, Grand Lake, CO
Harvey Schmid, Granby, CO
Homer Rouse, Superintendent, Rocky Mountain National Park, Estes Park, CO

Howard Moody, Grand County Courthouse, Hot Sulphur Springs, CO
 Howard Shoemaker, Denver, CO
 I.P. Gregg, Denver, CO
 J. Allen White, Walden, CO
 J.J. Klodt, Grand Lake, CO
 Jacob Hellman, Kearney, NE
 Jake Bennett, Granby, CO
 Jerry Claassen, Division of Wildlife, Grand Lake, CO
 Jerry Westbrook, Natural Resource Coordinator, Northern Colorado Water Conservancy District, Loveland, CO
 Jim & Lorraine Alsum, Grand Lake Estates Homeowners Association, Denver, CO
 Jock Whitworth, Rocky Mountain National Park, Grand Lake, CO
 John Akolt, Grand Lake, CO
 John Gierard, Western Area Power Administration, Loveland, CO
 John Radloff, Boulder, CO
 John Scott, Northern Colo. Water Conservancy District, Loveland, CO
 John Trieber, Granby, CO
 Judith B. Lorens, Granby, CO
 Judy Cowen, Grand Lake, CO
 Kathryn Mitchell, Brush, CO
 Kenneth Pratt, Lake Kove Townhome Association, Longmont, CO
 Dorothy Young, Kickapoo Lodge, Grand Lake, CO
 Larry and Betty Ward, Westminster, CO
 Larry and Norma Hawley, Lakewood, CO
 Margaret Engerman, Littleton, CO
 Merlin and Barbara Dennis, Kensington, KS
 Michael and Jane Coleman, Littleton, CO
 Michael Audiss, Arvada, CO
 Mike and Jackie Tompkins, Castle Rock, CO
 Mike Lamb, Winter Park, CO
 Morey Blackman, Grand Lake, CO
 Ray Williams, Bureau of Reclamation, Loveland, CO
 Richard and Joan MacCornack, Boulder, CO
 Robert Kruse, Englewood, CO
 Robert Stokes, Boulder, CO
 Roberta Smith, Denver, CO
 Rocky Smith, Colorado Environmental Coalition, Denver, CO
 Pamela Grout, Shadow Mountain Lake Recreation Park, Grand Lake, CO
 Shirley and Ivan Sweetman, Denver, CO
 Smith Payton, Western Area Power, Loveland, CO
 Stephen and Martha Baltz, Parker, CO
 Steve Bahlman, Golden, CO
 Steve Porter, Department of Wildlife, Walden, CO
 Steven Paulk, Hurd Creek Ranch, Tabernash, CO
 Stoddard White, Save Our Shores Fund, Denver, CO
 Terri Martin, NPCA Rocky Mountain Regional Director, Salt Lake City, UT
 Triple Diamond, Inc., Denver, CO
 Sharon Young, The Harbor, Grand Lake, CO
 Three Lakes Water and Sanitation District, Grand Lake, CO
 Tom Gibbens, Bureau of Reclamation, Loveland, CO
 Trisha Jones, Greenwood Village, CO
 W. E. Young, Castle Rock, CO
 Walter and Sally Bobb, Grand Lake, CO

Walter Schmidt, Wheatridge, CO
Wendall Funk, Grand Lake, CO
Will Bublitz, Sky Hi News, Granby, CO
William Bell, Bell Crest Resort, Grand Lake, CO
Gordon and Shirley Scheer, Three Lakes Communities Association, Littleton, CO
Phil Stoffel, Shoreline Landing Townhouses, Denver, CO
Noble Underbrink, Northern Colorado Water Conservancy District, Granby, CO

In addition, there were many news articles in the local newspapers about management of Shadow Mountain Lake. The District held meetings with several of the above about management of the aquatic vegetation within the lake. Many of the above have asked that something be done about the vegetation for several years.

Appendix C

1994 Aquatic Weed Harvester Operating Plan

1994 Aquatic Weed Harvester Operating Plan

Shadow Mountain Lake
Arapaho National Recreation Area
Grand County, Colorado

Prepared by
Richard P. Caissie
District Recreation and Resources Staff

Introduction

This Operating Plan is for the aquatic weed harvester's summer, 1994 operation on Shadow Mountain Lake, Arapaho National Recreation Area (ANRA), Grand County, Colorado. The operating plan prioritizes areas of Shadow Mountain Lake for treatment by the harvester, and is designed to meet the goals outlined in the *Environmental Assessment, Operation of an Aquatic Weed Harvester on Shadow Mountain Lake* (EA). As stated in the EA, the harvester's operation will help manage the aquatic vegetation within Shadow Mountain Lake and attempts to comply with Public Law 95-450, which created the ANRA on October 11, 1978 and requires the Forest Service to administer the ANRA "in such a manner as will best provide for ... the control of aquatic vegetation in the streams, lakes, and reservoirs within the recreation area."

Shadow Mountain Lake is located within the Arapaho National Recreation Area. The ANRA was created to provide public recreation and enjoyment; to conserve and develop scenic, natural, historic, and pastoral values; and to manage and utilize natural resources such as timber, wildlife, and water. The ANRA is a premier recreation area in Colorado and is managed by the Forest Service to enhance the recreation experience and to ensure that it remains a premier recreation area over the long term. Although Shadow Mountain Lake was created to transport water from Lake Granby to Grand Lake, it is used for many types of recreation such as boating, sightseeing, fishing, hiking, camping, picnicking, wildlife observation, and hunting.

In past years, Shadow Mountain Lake had an aquatic vegetation problem, with dense thickets of vegetation clogging parts of the lake. Boaters, anglers, local landowners, and business people feel that the aquatic vegetation (weeds) spoils their boating, fishing, and aesthetic experience while on this heavily-used recreation lake, and that the presence of weeds lowers the value of land adjacent to the lake. The lake is a major stop on the Pacific Flyway and waterfowl use the vegetation for food; because of this, some groups want the lake's aquatic vegetation left untouched because of the lake's excellent waterfowl habitat.

The Forest Service was the lead agency for implementing two lake drawdowns, one in 1990 and another in 1991, each designed to reduce the weeds within the lake. Prior to these drawdowns Shadow Mountain Lake had a severe aquatic weed problem, mostly *Elodea canadensis*, that impaired all forms of recreation except hiking, hunting and watchable wildlife. At least 600 acres of the 1300 acre lake are affected by weeds. The lake was drawn down five feet for two weeks in November, 1990. There were fewer weeds in the lake during the summer of 1991, which improved boating, water skiing and aesthetics. Negative results included cost, a minor algal bloom, possible proliferation of another noxious weed (bottle brush), and a reduction of waterfowl use of the lake. The lake was drawn down eight feet for two weeks in October, 1991. All indications are that the effects of the first drawdown, both the positive and the negative, continued with the second.

The two drawdowns controlled the aquatic weeds for a few years. During the summers of 1992 and 1993 there were no weed problems, but the problem is expected to return over the next few years. It is obvious that drawdowns help control the lake's weeds, but with undesirable side effects. To manage the weeds within the lake a drawdown would be required every three to five years. This means that the negative effects would occur

every three to five years unless some other method of control is used that could eliminate drawdowns or increase the intervals between the drawdowns.

Congress directed the Bureau of Reclamation to purchase an aquatic weed harvester for use on Shadow Mountain Lake; the Bureau of Reclamation delivered the harvester to the Forest Service in the fall of 1992. Congress did not give the Forest Service additional funding for the operation and maintenance of the weed harvester. The Sulphur Ranger District does not have the funds to operate the weed harvester without cutting back on services elsewhere.

The objectives for the operation of the aquatic weed harvester are to:

- Manage, not eliminate, weeds on Shadow Mountain Lake, so that waterfowl habitat is preserved and boating improved.
- Treat areas on the lake by priority. Areas with the highest priority are those with the greatest public use.
- Prolong the period between drawdowns, or minimize the need for another drawdown.
- Finance the operation, maintenance, and future replacement of the harvester in a way that does not detrimentally impact other Sulphur Ranger District recreation programs.
- Encourage User participation in the planning, financing, and operation of the harvester so they will have a feeling of ownership in the harvester's operation and success.
- Increase lake user satisfaction.

This Operating Plan is for the 1994 season only. It is part of the *Environmental Assessment, Operation of an Aquatic Weed Harvester on Shadow Mountain Lake*. Future years will require another Operating Plan, although areas prioritized for treatment in this plan may retain the same priority in future plans.

The 1994 weed harvesting season is expected to be short for two reasons:

- (a) Weeds are not expected to be a problem during the early part of the season because of the continuing effects of the 1990 and 1991 lake drawdowns.
- (b) Funding is a problem. The Sulphur Ranger District does not expect to have more than \$3,000 available for operation and maintenance of the weed harvester in 1994. The Colorado Division of Wildlife (DOW) is the only known additional contributor for the harvester's operation, with between \$700 and \$1,500 expected for the harvester's operation in 1994. As of March 25, 1994, the exact amount was still unknown. Expected cost for a full season of operation is between \$13,350 and \$19,700 plus depreciation.

The weed harvester will operate on the lake only as long as funding is available. If additional funds are not found for the harvester's operation (i.e., from private donations, contributed funds from other agencies, or from an increase in the Sulphur Ranger District's budget), the harvester will only operate on the lake until the \$3,700 to \$4,500 available is spent. How areas are prioritized, and how extensive the weed problem is, will determine what areas get treated. Once the budgeted money is exhausted, the harvester will be stored and not operated again until 1995. If additional funds are provided from other sources, the harvester will operate longer. Depreciation costs will not be considered for the 1994 season, but will be in future years.

If funding is not found in future years for the weed harvester's operation the harvester will not operate. Part of the funding for future years must come from non-Forest Service sources.

Because the aquatic weeds are not expected to be a serious problem in 1994, the season provides an opportunity to experiment and learn what the weed harvester is capable of doing and how the aquatic weeds will react to harvesting. A new Operating Plan will be prepared after the 1994 season for 1995 and future seasons, using the knowledge acquired in 1994.

1994 Operating Plan

The Forest Service will operate the aquatic weed harvester on Shadow Mountain Lake, Arapaho National Recreation Area, during the summer of 1994 to manage the aquatic weeds on the lake to preserve waterfowl habitat and improve boating. The 1994 season will be used to learn the harvester's capabilities, its production rate, and how the weeds react to harvesting.

The areas treated will be prioritized based on the following criteria (Map, Page 4):

Areas where the harvester WILL operate (not listed by priority):

- Public boat ramps (Greenridge, Hilltop).
- Grand Lake Channel (if the harvester will fit under the bridge and is able to maneuver).
- In front of Shadow Mountain Picnic Area, away from the wetlands.
- Marinas (Shadow Mountain and Trail Ridge Marinas).

Areas of secondary priority:

- Association boat docks.
- Areas of significant general public use.

Areas of lowest priority:

- Private boat docks.
- Strips through weeds every 40 feet for fishing if not covered in above categories.

Areas where the harvester will NOT operate:

- The North Fork Colorado River delta.
- Qualified wetlands.
- In the "no motor boat" areas around the islands (except for a narrow path cut for canoes) and in the Shadow Mountain Village cove (except for access to the Forest Service docks and boat ramp, and near the Shadow Mountain Picnic Area).

The District Wildlife Biologist will work with the harvester's operator to fine tune the areas set aside as fish and wildlife habitat and to preserve fish and waterfowl habitat while keeping a reasonable amount of the lake free of weeds. These areas will be allowed to become weed infested, and may include up to 20 percent of the lake's surface. Although channels may be cut through these areas for boat access, the areas will be dedicated to fish and wildlife habitat.

Normally the harvester would operate five days per week during the summer, weather permitting, and not operate on weekends or holidays. The normal summer season is expected to extend from mid-June (if weeds are accessible) through September (if the effects of operating after Labor Day extend into the following summer). This gives a potential operating season of about 80 working days. With normal weather, 60 to 65 operating days are expected. The expected production for a weed harvester is up to four acres of weeds harvested per day. Because of down time, travel time, non-optimum conditions, areas that require more than one treatment per year, and other reasons, it is expected that the average accomplishment will be closer to two acres per day. This gives an average of 120 to 130 acres treated per year. Some areas will require more than one treatment per year.

The cost of a full operating season is between \$13,350 and \$19,700 plus depreciation per year. The *Financing the Operation and Maintenance of an Aquatic Weed Harvester on Shadow Mountain Lake* contains estimates of the cost of operating the aquatic weed harvester, both on a per year and per acre basis, as well as the proposed plan for financing its operation. Lake users are encouraged to participate in the planning, financing, and operation of the harvester to the full extent allowed by law.

The estimated cost of operating the weed harvester is \$25 per day, plus two laborers (one for the harvester and one for the truck), the cost of a truck to pull the trailer, and depreciation. In 1994 the Forest Service is



NO WEED
HARVEST
~ AREA ~

0 1/2 MI.

ignoring depreciation. Salary for the laborers is \$96 per day for the harvester operator and \$76 per day for the truck driver. Cost for the truck is \$0.48 per mile.

During 1994 the operator for the aquatic weed harvester will be either a Forest Service employee or someone approved by the Forest Service.

If the Forest Service provides the truck and driver to pull the trailer, the cost of operating the weed harvester is approximately \$245 per day. If the only funds available are the \$3,700 to \$4,500 the DOW and the Forest Service has budgeted, the harvester can be on the lake 15 to 18 days this summer. Assuming the weed harvester can treat up to four acres per day, with two acres per day being a reasonable average, then approximately 30 to 36 acres can be harvested in 1994 at a cost of approximately \$124.00 per acre.

If someone other than the Forest Service provides a truck and driver to pull the trailer, the cost of operating the weed harvester is approximately \$121 per day. If the only funds available are the \$3,700 to \$4,500 the DOW and the Forest Service has budgeted, this puts the harvester on the lake 30 to 37 days. Assuming the weed harvester can treat up to four acres per day, with two acres per day being a reasonable average, then approximately 60 to 74 acres can be harvested in 1994 at a cost of \$61.00 per acre.

When time permits, use the harvester to cut strips through the aquatic vegetation thickets in areas reserved for fish and wildlife habitat every 40 feet into the shore. This will give an edge effect for fish habitat and provide a weed free area for anglers.

Unless other arrangements are made that do not increase the cost of the program, all weeds will be disposed of at the Sunset Borrow Pit.

Unloading the weeds from the harvester to the trailer for transport to a non-lake front disposal site requires the harvester to travel to a boat ramp. The average production per year might be increased if travel time is reduced by finding weed disposal sites on lake front property near harvesting sites.

Aquatic weeds can be used as a soil additive, adding organic material and nutrients to the soil. Paul Harrington, a local landscaper who can use the weeds in his work, offered his help. He offered the use of one of his drivers with a truck to pull the weed trailer for several days in return for taking weeds for his business's use. This will cut costs for the days Mr. Harrington provides a truck and driver. Weeds are available for others to remove if they provide a truck and driver for an entire day or longer, if the haul distance and time is less than it would be to the Sunset Borrow Pit, or if they go to the borrow pit. If the demand for weeds exceeds supply the Forest Service will consider charging a reasonable fee or asking for competitive bids.

If feasible, the weed harvester could carry its own mooring buoy or the lake patrol could pre-set mooring buoys to cut down on travel time at the beginning and end of each working day when the harvester is operating at the north end of the lake, provided that other transportation for the operator is available. The harvester will be moored in the Shadow Mountain Village cove on weekends, holidays, or any significant time period when not actively harvesting weeds.

Summer 1994

The weed harvester will operate on the lake only as long as funding is available. If additional funds are not found for the harvester's operation, either from private donations, contributed funds from other agencies, or from an increase in the Sulphur Ranger District's budget specifically for the weed harvester's operation, the harvester will only operate on the lake until \$3,700 to \$4,500 is spent. Once the budgeted money is exhausted, the harvester will be stored and not operated again until 1995. If additional funds are provided from other

sources the harvester will operate longer. If other funds do not materialize, the harvester will operate only until the \$3,700 to \$4,500 is exhausted.

In 1994, the harvester will operate for a short season because of the lack of funding. How areas are prioritized, and how extensive the weed problem is, will determine what areas get treated. Because the aquatic weeds are not expected to be a serious problem in 1994, this season provides an opportunity to experiment and learn what the weed harvester is capable of doing, what its production rate and cost per acre are, and how the aquatic weeds react to harvesting.

Because of the limited funding available, the Forest Service will make every effort to operate the harvester only when a truck and driver are provided by other sources. This operating plan assumes there will be eight days during the season when the Forest Service provides a truck and driver and 14 to 21 days when they are provided by other sources (such as Paul Harrington).

To ensure that the community gets the greatest return on its investment, if the harvester has not been on the lake for several weeks (such as in the early part of the summer), it will operate only after being informed by the Forest Service Lake Patrol or other reliable sources in what areas the weeds are thick enough to warrant the harvester's operation. The operator will then contact those who offered their services for a truck and driver to set up dates to harvest weeds. Later in the summer, when the harvester is operating every weekday, the harvester will operate only when weed concentrations are known to exist, and preferably when non-Forest Service assistance is available.

For the 1994 season the aquatic weed harvester will operate one day in late June and at least one day in early July. June and early July operations are for public relations and to determine how long harvesting effects will last. There will be two or three days of operation in September to determine if harvesting operations after Labor Day carry over to the following season. All remaining operating days will be in late July and August, during the height of the weed problem. If there is no weed problem in 1994, all unspent funds will be carried over to 1995 and added to 1995's operating funds.

Expected production in 1995 is between 44 and 58 acres of harvested weeds.

Mitigation Measures -

1. Do not operate in areas that the District Wildlife Biologist has set aside as desirable habitat for fish and wildlife (Map, Page 4). Channels may be cut through these areas for boat and fishing access, but the areas are dedicated to fish and wildlife habitat.
2. To prevent damage to wood frog habitat, tiger salamander habitat, or sensitive shore bird habitat, do not operate the weed harvester close to qualified wetlands. Do not operate the aquatic weed harvester near known beaver lodges to prevent impacts on river otters. Do not operate the harvester within 200 feet of active osprey nests, other than to travel around the lake, from May 1 through September 1.
3. Coordinate with the Colorado Division of Wildlife to make sure the weed harvester's operation does not interfere with their operations around the lake.

Monitoring -

1. Monitor the number and type of comments received while the weed harvester is operating. (Boat patrol, harvester operator, and office)
2. Monitor the number and location of acres treated and determine if treatment effects extend for more than one season. Take pictures of the lake at the end of the summer of areas where the harvester operated and where it did not operate to determine its efficiency. The following year examine areas

harvested after Labor Day to determine if it is efficient to operate the harvester after Labor Day.
(Harvester operator)

3. Monitor weed harvesting effects on waterfowl. Determine if nesting activity is affected and if there is an increase or decrease in waterfowl use of the lake during the summer and fall. (District Wildlife Biologist and Colorado Division of Wildlife)

Appendix D

Biological Evaluation for Sensitive Plant and Animal Species

Operation of an Aquatic Weed Harvester on Shadow Mountain Lake

BIOLOGICAL EVALUATION FOR THE WEED HARVESTER PROJECT

SUMMARY

INTRODUCTION

Forest Service policy regarding Biological Evaluations is stated in FSM 2672.4 as follows: "*Biological Evaluation*. Review all FS planned, funded, executed or permitted programs and activities for possible effects on the endangered, threatened, proposed, or sensitive species. The Biological Evaluation is the means of conducting the review and documenting the findings. Document the findings in the Decision Notice."

DESCRIPTION OF THE PROPOSED ACTION

The Sulphur Ranger District of the Arapaho National Forest proposes to manage aquatic vegetation occurring within Shadow Mountain Lake in the Arapaho National Recreation Area (ANRA). The primary resource objectives of the proposed project are to 1) managing aquatic vegetation to preserve waterfowl habitat and improve boating, and to 2) prolong the period between drawdowns or minimize the need for another drawdown. **The preferred alternative is to operate the harvester for all, or a portion of, the mid-June through September operating season, and in subsequent summer seasons.**

SUMMARY OF FINDINGS

The potential for adverse effects from project activities (including related activities and/or cumulative effects) was evaluated for 0 plant species and 13 animal species. Those species (or suitable habitat) with a "may impact individuals" determination are listed in the table below.

Management recommendations and mitigation measures are described in the body of this Biological Evaluation on a species by species basis.

SPECIES WITH A "MAY IMPACT INDIVIDUALS" DETERMINATION

<i>Common Name</i>	<i>Scientific Name</i>	<i>Status</i>
Tiger salamander	<i>Ambystoma tigrinum</i>	Sensitive
Wood frog	<i>Rana sylvatica</i>	Sensitive
Osprey	<i>Pandion halietus</i>	Sensitive

CONSULTATION WITH THE U.S. FISH AND WILDLIFE SERVICE

Interagency cooperation between the Forest Service and the USFWS, regarding proposed, threatened, or endangered species, is described in Section 7 of the Endangered Species Act. Definitions relating to "consultation" and "conference" are given in FSM supplement 2600-90-6.

This project (1) is expected to have "no impact" on any federally listed proposed, threatened, or endangered species (or critical habitat), and (2) does not involve a major construction project or EIS. Informal consultation with the USFWS began on 12/1/93 and on 12/30/93 the USFWS concurred with the "no effect" determination on bald eagles by the proposed project

ARAPAHO AND ROOSEVELT NATIONAL FOREST
SULPHUR RANGER DISTRICT

BIOLOGICAL EVALUATION FOR
SENSITIVE PLANT AND ANIMAL SPECIES
FOR THE
WEED HARVESTER PROJECT

Prepared By:


Doreen M. Schmidt

Wildlife Biologist
Wildlife Biologist

1/4/94
Date

BIOLOGICAL EVALUATION FOR PLANTS AND ANIMALS

INTRODUCTION

The proposed operation of the aquatic plant harvester would occur in Shadow Mountain Lake in the Arapaho National Recreation Area (ANRA). The primary resource objectives are to 1) manage aquatic vegetation to preserve waterfowl habitat and to improve boating, and to 2) prolong the period between drawdowns or minimize the need for another drawdown.

The preferred alternative is to operate the harvester for all, or a portion of, the mid-June through September operating season. The preferred alternative is the only action alternative for this proposed project.

Shadow Mountain Lake is shallow with an extensive littoral zone (including wetlands) characterized by growth of sedges, reeds, and cattails. These wetland areas are utilized by migratory birds, resident waterfowl, beaver, muskrat, river otters, and amphibians.

REVIEW OF EXISTING INFORMATION

A review of existing information was conducted for the Arapaho National Recreation Area including local plant and animal reports (D.Jasper 11/13/89) and database inquiries from the Colorado Natural Heritage Program (CNHP) (3/4/93 and 4/21/93) and the Colorado Natural Areas Program (CNAP) (4/16/93). Both programs were provided with the R2 Regional Forester's Sensitive Species List (3/19/93) and the list of Threatened, Endangered, and Proposed Species for Region 2 (2/93) for data comparisons (see Appendix A for species lists). Jerry Claassen, Cathy Craig, and Chuck Wagner with the Colorado Division of Wildlife (CDOW) were also contacted on 12/30/92. CWHF provided a list of likelihoods of occurrences of sensitive plants based on habitat associations of sensitive plant occurrences in adjacent areas on the District.

According to the CWHF, CDOW, and the CNAP, **no federal or state threatened, endangered, proposed, or regionally sensitive plant species are known to exist in the project area.** Local reports indicate the occurrence of *Listera sp* and *Spiranthes romanzoffiana*. These genera contain species considered rare (Colorado Native Plant Society (CNPS) 1989) or federally threatened (USFWS), however, suitable habitat for the threatened *Spiranthes* species is not present.

According to the CDOW and CWHF, there are **no known occurrences of federally proposed, threatened, or endangered animal species in the project area, with the exception of bald eagles which concentrate outside of the project area** in the winter and occasionally forage in Shadow Mountain Lake from October through March. Informal consultation was initiated with the USFWS on 12/1/93 and on 12/30/93 the USFWS concurred with a "no effect" determination.

State endangered and regionally sensitive animal species are known to, or are suspected to, occur within the project area. Wetland-associated sensitive plant species are not known to occur in Grand County (CNPS 1989), with the exception of *Mimulus gemmiparous* which grows near forest seeps and springs in granite outcrops (habitat unavailable in the proposed project area). Occurrence of the Rocky Mountain capshell snail is unlikely because of the lack of suitable (granitic) substrate in Shadow Mountain Lake (PIONEER 1993).

SENSITIVE SPECIES AND SUITABLE HABITAT PRESENT

Based on database inquiries and other botany reports (Jasper 1989 and CNPS 1989) no threatened, endangered, proposed, or sensitive plant species occur within the project area. Database inquiries, independent reports (Jasper 1989), and suitable habitat information indicate that the following state endangered and regionally sensitive animal species are known to occur, or have the potential to occur, within the project area.

Common Name	Scientific Name	Occur or Suitable Habitat
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Occur
Northern Leopard Frog	<i>Rana pipiens</i>	Suitable Habitat
Tiger Salamander	<i>Ambystoma tigrinum</i>	Occur
Wood Frog	<i>Rana sylvatica</i>	Occur
Boreal Western Toad	<i>Bufo boreas</i>	Suitable Habitat
American Bittern	<i>Botaurus lentiginosus</i>	Suitable Habitat
Greater Sandhill Crane	<i>Grus canadensis</i>	Suitable Habitat
Long-billed Curlew	<i>Numenius americanus</i>	Suitable Habitat
White-faced Ibis	<i>Plegadis chihi</i>	Suitable Habitat
Common Loon	<i>Gavia immer</i>	Occur
Osprey	<i>Pandion halietus</i>	Occur
Black Tern	<i>Chlidonias niger</i>	Suitable Habitat
River Otter	<i>Lutra canadensis</i>	Occur

HABITAT REQUIREMENTS AND EFFECTS OF WEED HARVESTING

Bald Eagle (*Haliaeetus leucocephalus*)

In Grand County, Colorado, bald eagles congregate in winter along stretches of the Colorado River that remain unfrozen and prey upon and scavenge spawning kokanee salmon and other salmonids. Bald eagles are occasionally reported foraging in (when open water is available) and perching along shorelines and islands of Shadow Mountain Lake from mid-October through March. Below Shadow Mountain dam, a concentration of 12 - 20 immature and adult bald eagle forage and perch from Mid-October through March. Bald eagles leave the area by late March and do not nest in the area. Because operation of the weed harvester will not disturb perched or feeding birds during the summer operating season, and operation of the harvester is not expected to decrease the availability of the fish prey base, operation of the weed harvester will have no effect on bald eagles and their habitat. USFWS concurs with this finding.

Northern Leopard Frog (*Rana pipiens*)

Suitable habitat includes emergent shoreline vegetation in riparian areas, wetlands, and lakes. Adults utilize meadows with tall grass, close to water, in the summer. Surveys (1973-1989) do not indicate the presence of leopard frogs in and around Shadow Mountain Lake, therefore, the proposed project will have no impact on northern leopard frogs, but may impact suitable habitat unless mitigation measures are followed (see MANAGEMENT RECOMMENDATIONS).

Tiger Salamander (*Ambystoma tigrinum*)

Suitable habitat includes lakes and ponds. Surveys (1973-1989) indicate the presence of tiger salamanders along the west shore of Shadow Mountain Lake. Tiger salamanders inhabit shallows for breeding and feeding and are ambulatory, therefore, able to move away from habitat disturbances. Operation of the weed harvester

may impact individual tiger salamanders and their habitat but is not likely to result in a trend to federal listing or loss of viability of the population if mitigation measures are followed (see MANAGEMENT RECOMMENDATIONS).

Wood Frog (*Rana sylvatica*)

Suitable habitat includes emergent vegetation in lake and ponds and upland forested areas for wintering and dispersal. Surveys (1973-1991) indicate the occurrence of wood frogs in pools and ponds along the west shore of Shadow Mountain Lake. Additional suitable habitat occurs along the northeast and east shores of the lake. Wood frogs are ambulatory and should be able to move away from habitat disturbances, however, operation of the weed harvester may impact individual wood frogs and their habitat but is not likely to result in a trend to federal listing or loss of viability of the population if mitigation measures are followed (see MANAGEMENT RECOMMENDATIONS).

Boreal Western Toad (*Bufo boreas boreas*)

Suitable habitat includes wet meadows and riparian habitat up to 11,000 feet. Surveys (1973-1989) do not indicate the occurrence of boreal toads in the area, therefore, operation of the weed harvester will have no impact on boreal toads but may impact suitable habitat unless mitigation measures are followed (see MANAGEMENT RECOMMENDATIONS).

American Bittern (*Botaurus lentiginosus*)

Suitable habitat includes freshwater marshes. Bitterns are rare June visitors in Grand County with records from Windy Gap Reservoir. Surveys of Shadow Mountain Lake (1973-1989) do not indicate the occurrence of bitterns, however, suitable habitat exists in cattail marshes and wet meadows. Operation of the weed harvester will have no impact on American bitterns but may impact suitable habitat unless mitigation measures are followed (see MANAGEMENT RECOMMENDATIONS).

Greater Sandhill Crane (*Grus canadensis*)

Suitable habitat includes freshwater marshes, grasslands and agricultural areas near water, lakes, ponds, rivers, streams, and riparian areas. Sandhill cranes are uncommon summer visitors in Grand County and breeding records exist in grassland/agricultural habitat. Surveys of Shadow Mountain Lake (1973-1989) do not indicate the occurrence of sandhill cranes, however, suitable habitat exists in moist meadows and willow ponds along shoreline areas. Operation of the weed harvester will have no impact on greater sandhill cranes but may impact suitable habitat unless mitigation measures are followed (see MANAGEMENT RECOMMENDATIONS).

Long-billed Curlew (*Numenius americanus*)

Suitable habitat includes freshwater marshes and lakes. Long-billed curlews are rare spring and summer visitors and do not breed in Grand County. Surveys of Shadow Mountain Lake (1973-1989) do not indicate the occurrence of long-billed curlews, however suitable habitat exists in wet grassland/meadow areas along the shoreline. Operation of the weed harvester will have no impact on long-billed curlews but may impact suitable habitat unless mitigation measures are followed (see MANAGEMENT RECOMMENDATIONS).

White-faced Ibis (*Plegadis chihi*)

Suitable habitat includes freshwater marshes, grasslands and agricultural areas near water, and lakes ponds, rivers and streams. White-faced ibis are uncommon spring migrants and were reported in the fall of 1993 in the Williams Fork area. Surveys of Shadow Mountain Lake (1973-1989) do not indicate the occurrence of white-faced ibis, however, suitable habitat occurs in wet meadows, marshes, and along shorelines. Operation

of the weed harvester will have no impact on white-faced ibis but may impact suitable habitat unless mitigation measures are followed (see MANAGEMENT RECOMMENDATIONS).

Common Loon (*Gavia immer*)

Suitable habitat is lakes and ponds. Common loons are uncommon spring and fall migrants, rare summer visitors who do not breed in Grand County, and fairly common to uncommon winter visitors. Surveys of Shadow Mountain Lake (1973-1989) indicate uncommon occurrences of common loons in the winter, spring and fall, and rare occurrences in the summer. Since loons are mobile and can easily move away from disturbance, and do not breed in the area, operation of the weed harvester will have no impact on common loons. Since common loons are divers that feed on small fish, removal of weeds from Shadow Mountain Lake will have either no impact on common loon suitable habitat, or could possibly have a beneficial impact on suitable habitat by facilitating diving by removal of weed mats.

Osprey (*Pandion halietus*)

Suitable habitat includes coniferous forests near water, shorelines, and marshes. Ospreys are fairly common around Shadow Mountain Lake from April through October and nest in coniferous trees along shorelines and in upland areas. Ospreys prey almost exclusively on fish but also take small mammals, when available. Floating weed mats may inhibit fishing by ospreys, because 1) weed mats obscure fish, when viewed from above, and 2) osprey talons may become entangled in weeds causing feather soaking or loss or prey. Ospreys are vulnerable to disturbance while incubation eggs and young. Young birds are also vulnerable to disturbance if adults flush and expose young birds to temperature or weather extremes, or if young are flushed from the nest before they are ready to fledge. Operation of the weed harvester may impact individual ospreys but is not likely to cause a trend to federal listing or loss of viability of the population (see MANAGEMENT RECOMMENDATIONS).

Black Tern (*Chlidonius niger*)

Suitable habitat includes lakes and freshwater marshes. Black terns are rare late spring/early summer migrants and do not breed in Grand County. Surveys around Shadow Mountain Lake (1973-1989) do not indicate the presence of black terns, however suitable habitat can be found in cattail marshes, adjacent to open water. Operation of the weed harvester will have no impact on black terns but may impact suitable habitat unless mitigation measures are followed (see MANAGEMENT RECOMMENDATIONS).

River Otter (*Lutra canadensis*)

Suitable habitat includes lakes, ponds, rivers, streams and riparian areas. The river otter is state endangered. River otters occur in Shadow Mountain Lake as a result of a re-introduction in the headwaters of the Colorado River in the 1970s. River otters remain active year-round and feed exclusively on fish and crustaceans. River otters are highly mobile and can easily escape from areas of disturbance. Young are raised in bank dens or abandoned beaver lodges. Weed mats may inhibit river otter fishing success because of the difficulty of fishing in weed entanglements. Crayfish, however, often seek refuge in weed mats and may lose some security habitat which might make them more vulnerable to predation by river otters. Operation of the weed harvester should have either no impact or a beneficial impact on river otters because removal of weeds may facilitate fishing and reduce hiding cover for crayfish. Mitigation measures should be followed to avoid potential disturbance to young in dens (see MANAGEMENT RECOMMENDATIONS).

EFFECTS OF THE PROPOSED PROJECT

Direct and Indirect Effects

There will be no direct or indirect effects or impacts of operating the weed harvester on bald eagles, common loons, and river otters, or their suitable habitat.

- Bald eagles occur around Shadow Mountain Lake and adjacent areas from October through March. Bald eagles occasionally fish in Shadow Mountain Lake during this time until the lake freezes (November), although the channel remains open where the Lake Granby canal enters Shadow Mountain Lake. Bald eagles predominantly fish and forage along the Colorado River. Operation of the harvester will not overlap with the time when bald eagles are in the area and will not, therefore, disturb the birds.
- Common loons and river otters fish in Shadow Mountain Lake year-round. Both species are mobile and can move away from any disturbance caused by operation of the weed harvester. Common loons do not breed in the area, therefore nests will not be disturbed. River otters rear young in abandoned beaver lodges and bank dens and will not be disturbed. Removal of weeds may improve fishing conditions. In this case, operation of the weed harvester may have a beneficial impact on river otters and common loons.

Operation of the weed harvester may impact wetland and shallow and shoreline habitats which may impact northern leopard frogs, tiger salamanders, wood frogs, boreal toads, american bitterns, greater sandhill cranes, long-billed curlew, white-faced ibis, ospreys, and black terns and/or their suitable habitat.

- Ospreys, tiger salamanders, and wood frogs are known to occur either in or around Shadow Mountain Lake. Ospreys nest on islands and shorelines around Shadow Mountain Lake and are vulnerable to disturbance during the nesting period, therefore, operation of the weed harvester has the potential to impact nesting ospreys. Tiger salamanders and wood frogs occur along the west shore of Shadow Mountain Lake. Both species use shallows for feeding and breeding. Operation of the weed harvester could impact both species if shallow habitat is altered or disturbed by harvester operations.
- Northern leopard frogs, boreal toads, american bittern, greater sandhill cranes, long-billed curlews, white-faced ibis, and black terns are not known to occur in and around Shadow Mountain Lake, however, suitable habitat exists for all these species in freshwater marsh/shallow areas along the shores and islands of Shadow Mountain Lake. Operation of the weed harvester may impact suitable habitat for all these species if shallow water habitat is disturbed or altered by harvester operations.

Cumulative Effects

Past Activities

Past activities that have had an effect on the area include the construction of Shadow Mountain Dam and inundation of Shadow Mountain Lake with water in 1946 and 1947. Prior to construction of the dam, the area where Shadow Mountain Lake now occupies was primarily hay fields, meadows, and riparian areas surrounding meanders of the Colorado River and tributaries. Since its inundation, aquatic vegetation began to develop and, by the 1990s, was considered a nuisance to boaters. In the fall of 1991 and 1992, the level of Shadow Mountain Lake was drawn down to freeze and kill exposed weed mats. These drawdowns significantly knocked back the amount of weeds in the lake. Shadow Mountain Lake is stocked with brown and rainbow trout. Shadow Mountain Lake receives heavy recreational use from boaters, anglers, water skiers, and canoeists.

Current Activities

Recreational use of Shadow Mountain Lake continues to increase. No drawdowns are being considered for the next year or two for control of weeds.

Future Activities

Recreational use of Shadow Mountain Lake is expected to increase. Drawdowns for control of aquatic weeds may be considered in the future if weeds are not controlled by some other method (ie. weed harvester).

DETERMINATION

This Biological Evaluation process has served to review the effects of the proposed project to harvest weeds on Shadow Mountain Lake and its impacts on known or potential sensitive, endangered, or threatened species and their habitats. As a result of this evaluation, it is my professional determination that implementation of the weed harvester proposal will have the following impacts:

- No effect on bald eagles.
- No impact on common loon or river otters, or their suitable habitat.
- May impact suitable habitat (but not individuals) for northern leopard frogs, boreal toads, american bittern, greater sandhill cranes, long-billed curlews, white-faced ibis, and black terns.
- May impact individual ospreys, tiger salamanders, and wood frogs but not likely to cause a trend to federal listing or loss of viability.

MANAGEMENT RECOMMENDATIONS

The following mitigation measures are recommended:

- Do not operate the weed harvester after September 30 of each year to avoid potential disturbance to wintering bald eagles.
- Do not operate the harvester within a buffer strip of 100' from any wetlands, areas with emergent shoreline vegetation, or beaver lodges, to preserve habitat for wetland and shoreline species and to reduce disturbance to river otters.
- Do not operate the weed harvester within 200' of active osprey nests from May 1 - September 1 to reduce disturbance to nesting ospreys.

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United States Department of the Interior

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George S. Edwards, District Ranger
Sulphur Ranger District
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P.O. Box 10
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DEC 29 1993

SULPHUR DISTRICT
DEC 30 1993
TAKE PRIDE IN AMERICA

Info.	D.R.	I.R.O.
☒	☒	☒
A.I.P. Rec. Off.		
Admin. Off. Supt. Sec.		

Dear Mr. Edwards:

In response to your letter dated December 1, 1993, the U.S. Fish and Wildlife Service is providing the following comments regarding the weed harvester project on Shadow Mountain Lake in the Sulphur Ranger District on the Arapaho National Forest, Grand County, Colorado. These comments have been prepared under the provisions of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et. seq.).

The Service, after our review of the information you provided on the weed harvester project and the winter concentration of bald eagles, finds that if the time line described in your letter is followed, this project will not have adverse impacts on any endangered or threatened species. Therefore, the Service concurs with your "no effect" determination for this project.

You should contact the Colorado Division of Wildlife to address any concerns they may have. The contact person for this area is John Toolen of the Northwest Regional Office in Grand Junction at (303) 248-7175. If the Service can be of further assistance, contact Clay Ronish of this office at (303) 231-5280.

Sincerely,

LeRoy W. Carlson
Colorado Field Supervisor

cc: CDOW, Grand Junction, CO (Attn. John Toolen)
Reading file
Project file

Reference: CRR*CLAY\SPECLIST.60

Appendix E

Decision Notice and Finding of No Significant Effect

Operation of an Aquatic Weed Harvester on Shadow Mountain Lake

Decision Notice Finding Of No Significant Effect

**Arapaho and Roosevelt National Forests
Sulphur Ranger District
Grand County, Colorado**

Shadow Mountain Lake, created in the late 1940's as part of the Colorado-Big Thompson Water Project, is located in the Arapaho National Recreation Area (ANRA). The ANRA was created to provide public recreation and enjoyment; to conserve and develop scenic, natural, historic, and pastoral values; and to manage and utilize natural resources such as timber, wildlife, and water. The ANRA is a premier recreation area in Colorado and is managed by the Forest Service to enhance the recreation experience and to insure that it remains a premier recreation area over the long term. Shadow Mountain Lake is a multiple-use recreation lake. Although it was created to transport water from Lake Granby to Grand Lake, Shadow Mountain Lake is used for many types of recreation such as boating, sightseeing, fishing, hiking, camping, picnicking, wildlife observation, and hunting (Map, Page 2).

In past years, Shadow Mountain Lake had an aquatic vegetation problem, with dense thickets of vegetation clogging parts of the lake. Many boaters, anglers, local landowners, and business people stated that the aquatic vegetation spoiled their boating, fishing, and aesthetic experience on this heavily used recreation lake and that the presence of the aquatic vegetation lowered the value of private land adjacent to the lake.

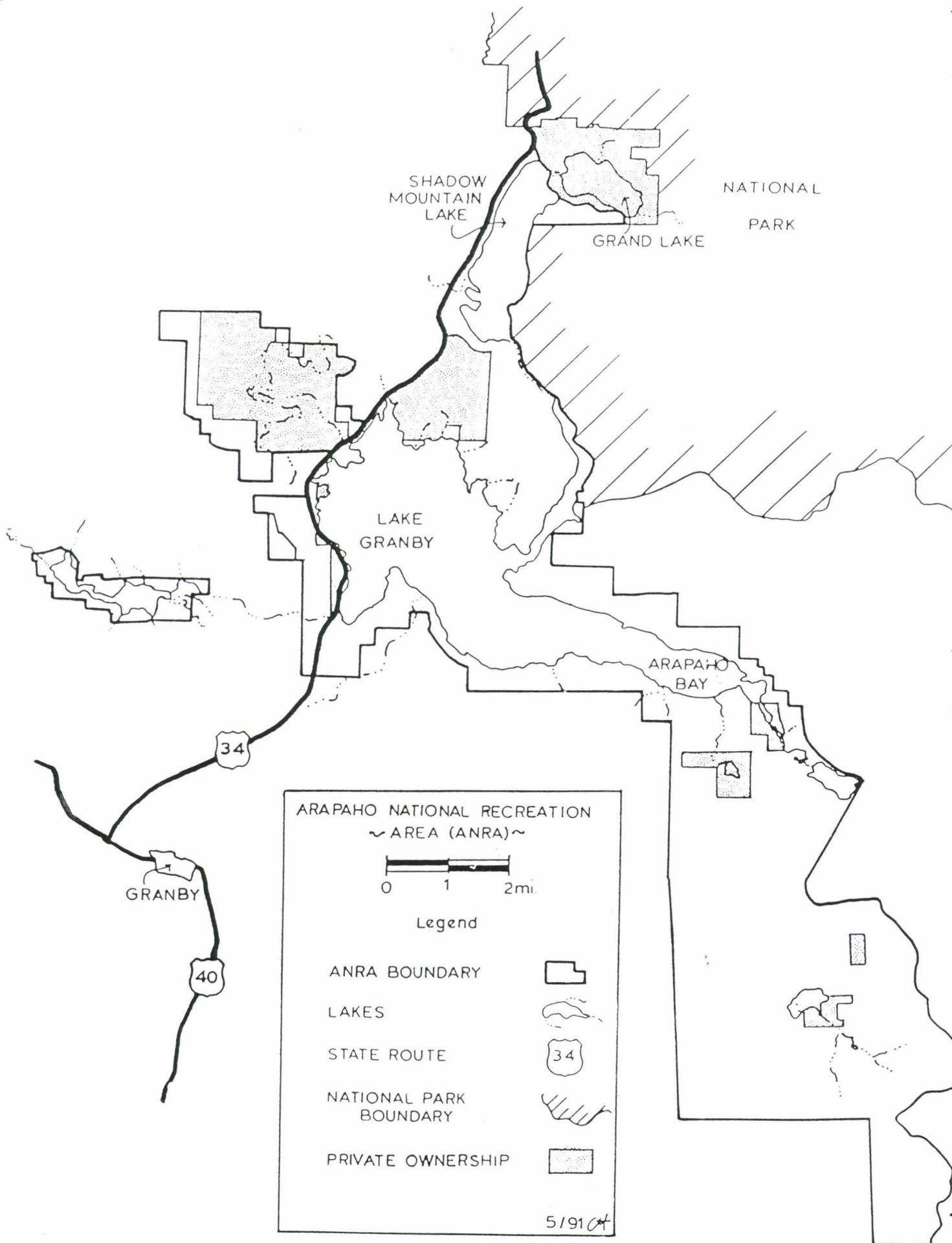
The lake is a major stop on the Pacific Flyway and waterfowl use the vegetation for food. Because of this, some groups want the lake's aquatic vegetation left alone because of the lake's excellent waterfowl habitat.

Public Law 95-450, which created the ANRA in 1978, states that it will be administered "in such a manner as will best provide for ... the control of aquatic vegetation in the streams, lakes, and reservoirs within the recreation area." The Forest Service was the lead agency for two lake drawdowns, in 1990 and 1991, that were designed to reduce the aquatic vegetation (weeds) in the lake. Drawdowns helped control the lake's weeds, but had undesirable side effects. To manage the weeds within the lake a drawdown would be required every three to five years unless some other method of control is used that could eliminate drawdowns or increase the intervals between the drawdowns.

The Bureau of Reclamation purchased a weed harvester and delivered it to the Forest Service in the fall of 1992. Congress did not give the Forest Service additional funding for the operation and maintenance of the weed harvester. The Sulphur Ranger District does not have the funding to operate the weed harvester without cutting back on services elsewhere.

The objectives of this proposal are to:

- Manage, not eliminate, weeds on Shadow Mountain Lake using the aquatic weed harvester.
- Develop an operating plan that sets priorities of where the harvester will operate on the lake.
- Prolong the period between drawdowns, or minimize the need for another drawdown.
- Encourage user participation in the planning, financing, and operation of the harvester.
- Finance the operation and maintenance of the harvester in a way that does not detrimentally impact other Sulphur Ranger District recreation programs.



- Increase lake user satisfaction.

There is a need to undertake this action now in order to have the aquatic weed harvester operating on the lake during the summer of 1994.

Before taking any action I formed an interdisciplinary team of resource specialists to study the need for action and the environmental effects of each alternative. The need for action, the alternatives, issues, and environmental consequences of the alternatives are described in the ***Environmental Assessment, Operation of an Aquatic Weed Harvester on Shadow Mountain Lake*** which I used as an aid in making my decision. The Environmental Assessment (EA) is available for public review at the Sulphur Ranger District Office in Granby, Colorado, and at the Arapaho and Roosevelt National Forests Supervisor's Office in Ft. Collins, Colorado.

This action is consistent with the overall management direction provided within the *Land and Resource Management Plan* (Forest Plan) for the Arapaho and Roosevelt National Forests and Pawnee National Grassland approved May, 1984, as required by 36 CFR 219.10(e). The Forest Plan is being implemented as required by the Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA, P.L. 93-378) and the National Forest Management Act of 1976 (NFMA, P.L. 94-588), and these actions are being undertaken as one step in implementing the Forest Plan. The proposed action meets the Forest Plan Goals of: 1) scheduling vegetation treatments for the greatest number of recreation, wildlife, range, water, and timber goals as specified by each management area; 2) recognizing the significance of recreation in proximity to the Front Range population and natural attractions; 3) providing for intensive management of motorized recreation on high quality areas and locations available today; and 4) improving habitat effectiveness and minimizing disturbance to wildlife whenever consistent with management goals. These goals are listed in the Forest Plan in Chapter III, pages 2 through 7. The Forest Plan is available for public review at the Sulphur Ranger District Office in Granby, Colorado, and at the Arapaho and Roosevelt National Forests Supervisor's Office in Ft. Collins, Colorado.

Public Notification and Environmental Issues Involved In Any Action

Members of the public who might be affected or have an interest in the proposed project, as well as federal, state, and local governmental agencies, were notified that the operation of an aquatic weed harvester was proposed for Shadow Mountain Lake beginning in the summer of 1994. They were asked to comment on or involve themselves in the analysis of the proposed project.

Numerous articles and editorial cartoons appeared in the *The Ski-Hi News* about the aquatic vegetation in Shadow Mountain Lake and the proposed action. Two public meetings were held in January, 1994. The first, a Working Group meeting of key interested parties, was designed to work up a method to operate and finance the weed harvester. The second meeting was open to the public and was designed as an information dissemination meeting to inform the public of what the Working Group came up with and to ask for comments.

The planning team reviewed Forest Planning documents and available literature on similar projects. Based on this information and the public's response a list of the major public and environmental issues was developed. Four important issues were raised in conjunction with the proposed action. The EA contains a more detailed list.

Aquatic Vegetation's Impact on Recreation - Many people feel that the aquatic vegetation affects their enjoyment of the lake by interfering with boating, swimming, water skiing and fishing; some say the problem is exaggerated. Some people feel the aquatic vegetation is unaesthetic and lowers the value of private lake front property.

Vegetation Management's Impact on Wildlife - The lake is prime waterfowl habitat, is used as a staging area and breeding ground by ducks and geese, and has some of the best duck hunting in Grand County; the two drawdowns reduced waterfowl habitat. A method to improve boating and other recreation activities while maintaining a reasonable amount of waterfowl habitat is desirable. The 1991 drawdown impacted fish in the Colorado River below the dam by stranding fish when the river's flow was reduced. The lake is habitat to several sensitive wildlife species and has potential habitat for sensitive shore birds.

Treatment Area Priority - A limited number of acres can be treated each year by the weed harvester, so treatment areas must be prioritized; some people or groups will be unhappy with whatever priority is used.

Operation and Maintenance Budget - Many people feel the Forest Service should pay the entire cost of the weed harvester's operation and maintenance, regardless of the consequences to other programs. Others feel that the lake users who benefit from the harvester's operation should help cover its cost.

Alternative Courses Of Action

Two alternatives were developed and considered in the environmental analysis process. These alternatives included taking no action (not operating the weed harvester) and operating the weed harvester on Shadow Mountain Lake. The two alternatives the interdisciplinary team and I considered follow. A more detailed description of each alternative is available in the Environmental Assessment.

Alternative 1. No Action

The weed harvester will not operate on Shadow Mountain Lake. The aquatic weeds will be allowed to increase in the lake with no effort at control or management using the aquatic weed harvester.

Alternative 2. Operate the Harvester on the Lake

The aquatic weed harvester will operate on Shadow Mountain Lake, Arapaho National Recreation Area, each summer to manage the aquatic weeds on the lake to preserve waterfowl habitat and improve boating.

To preserve fish and waterfowl habitat while keeping a reasonable amount of the lake free of weeds, an operating plan will be drafted each year before the harvester operates on the lake. This operating plan will set aside areas that the District Wildlife Biologist feels are desirable for fish and wildlife habitat. These areas will be allowed to become weed infested, and may include up to 20 percent of the lake's surface.

The areas treated will be prioritized based on the following criteria:

Areas where the harvester WILL operate (not listed by priority):

- Public boat ramps and launches (Greenridge, Hilltop).
- Grand Lake Channel (if the harvester will fit under the bridge and is able to maneuver).
- In front of Shadow Mountain Picnic Area, away from the wetlands.
- Marinas (Shadow Mountain and Trail Ridge Marinas).

Areas of secondary priority:

- Association boat docks.
- Areas of significant general public use.

Areas of lowest priority:

- Private boat docks.

- Strips through weeds every 40 feet for fishing if not covered in above categories.

Areas where the harvester will NOT operate:

- The North Fork Colorado River delta.
- Qualified wetlands.
- In the "no motor boat" areas around the islands and in the Shadow Mountain Village cove.

The weed harvester will operate five days per week during the summer, weather permitting, but not on weekends or holidays. The summer season is expected to extend from mid-June through September, a potential operating season of 80 working days. With normal weather, 60 to 65 operating days are expected. The expected production for a weed harvester on Shadow Mountain Lake is up to four acres of weeds harvested per day. Because of down time, travel time, and other reasons, it is expected that the average accomplishment will be closer to two acres per day, an average of 120 to 130 acres harvested per year.

The cost of this alternative is between \$13,350 and \$29,700 per year.

Mitigation Measures -

1. To preserve fish and waterfowl habitat while keeping a reasonable amount of the lake free of weeds, an operating plan will be prepared each year before the harvester operates.
2. To prevent damage to sensitive wildlife habitat the weed harvester will not operate close to qualified wetlands.
3. The aquatic weed harvester will not operate near known beaver lodges to prevent impacts on river otters; nor will the harvester operate within 200 feet of active osprey nests, other than to travel around the lake, from May 1 through September 1.

Monitoring -

1. Monitor the number and type of comments received while the weed harvester is operating.
2. Take pictures of the lake at the end of the summer of areas where the harvester operated and where it did not operate to determine its efficiency. Examine areas harvested after Labor Day the following summer to determine if it is efficient to operate the harvester after Labor Day. Monitor the number and location of acres treated and determine if treatment effects extend for more than one season.
3. Monitor the algae and nutrient levels within the lake. Determine if algal blooms increase or decrease as a result of weed harvest, if nutrient levels are affected, and if water clarity is affected. If water becomes clearer as a result of weed harvest, determine if the weeds spread into deeper water.
4. Monitor weed harvesting affects on waterfowl.

All actions would conform to Forest Plan Standards and Guidelines. The alternatives are consistent with Forest Plan Management Direction and with the Management Area Prescription (1A-1, 2B, and 4B, Forest Plan, pages III-99 through III-101, III-129 through III-137, and III-146 through III-155) for the area where the proposed action will take place. The proposed action meets the Forest Plan Goals of: 1) scheduling vegetation treatments for the greatest number of recreation, wildlife, range, water, and timber goals as specified by each management area; 2) recognizing the significance of recreation in proximity to the Front Range population and natural attractions; 3) providing for intensive management of motorized recreation on high quality areas and locations available today; and 4) improving habitat effectiveness and minimizing disturb-

ance to wildlife whenever consistent with management goals. These goals are listed in the Forest Plan in Chapter III, pages 2 through 7. These alternatives could be implemented without amending the Forest Plan.

The Decision

I have read the **Environmental Assessment, Operation of an Aquatic Weed Harvester on Shadow Mountain Lake**, and it is my decision to operate the weed harvester on the lake beginning in the summer of 1994. I have chosen to take the actions described in Alternative 2, including the mitigations described in the Environmental Assessment, for the reasons discussed below. The aquatic weed harvester will operate under the **1994 Aquatic Weed Harvester Operating Plan** (Appendix C of the Environmental Assessment) for the 1994 summer season. Another operating plan will be prepared for the 1995 season after examining the results of the weed harvester's 1994 operation.

Reasons For This Decision

My reasons for taking these actions are:

- By using the aquatic weed harvester, the period between lake drawdowns will be extended or the need for drawdowns eliminated.
- The weed harvester is selective where it removes weeds from the lake, while a drawdown is not. Thus, using the harvester will preserve waterfowl habitat that would be damaged or destroyed with a drawdown.
- Although parts of the lake will remain untreated with the harvester, these will mostly be areas of little or no motorized recreation use. The areas that receive the vast majority of motorized recreation use (marinas, boat ramps, main travel-ways) will be harvested. This will improve the quality of the recreation experience for those people who boat on the lake.
- Treated portions of the lake will remain relatively free of weeds. As the harvester will work in areas where the majority of the recreation use occurs, the lake will appear relatively free of weeds, increasing its visual appeal.
- Operation of the weed harvester will have no effect on bald eagles and their habitat, and there will be no negative effects on ospreys, river otters, wood frogs, tiger salamanders or their habitat.
- Removing the aquatic weeds will remove much of the excess nutrients within the lake. Over time, as the weeds are removed, the lake's clarity will improve, as will the water quality.

The Effect Of This Decision On The Issues

Aquatic Vegetation's Impact on Recreation - One of the important issues associated with Shadow Mountain Lake is the aquatic vegetation's impact on recreation. Many people feel that the aquatic vegetation affects their enjoyment of the lake by interfering with boating, swimming, water skiing and fishing. Some people feel the aquatic vegetation is unaesthetic and lowers the value of private lake front property.

Shadow Mountain Lake is a heavily-used recreation lake. Because the majority of the recreation activity connected with Shadow Mountain Lake involves water, the aquatic weeds within the lake have a major affect on that recreation and the resulting quality of the recreation experience. The aquatic weeds impact recreation by keeping boats out of weed clogged parts of the lake. This can be as minor as an inconvenience to a water skier, or as major as preventing shore line property owners from using their boat docks. Weeds in an area can prevent power boats from going into a part of the lake, but still allow a canoe.

Prior to the 1990 drawdown approximately 60 percent of the lake had a weed problem, predominantly common elodea, coontail, and curlyleaf pondweed. None of these plants are native to the area and, because these plants are not native to the area or desired by most people, they are referred to as "weeds" by most who use the lakes. The plants grew in dense thickets that interfered with most forms of water related recreation. The 1990 and 1991 drawdowns opened up all of the lake to all forms of recreation. Water skiers used parts of the lake that a canoe could not use during the summer of 1990. By late summer, 1993, the aquatic weeds were beginning to re-establish themselves in the shallow zones of the lake.

By using the weed harvester, some areas will remain untreated. The amount of the lake surface that becomes clogged with weeds should be substantially less than what was clogged before the 1990 drawdown. Eventually as much as 20 percent of the lake will become so clogged with weeds that only limited types of recreation can take place there. Water skiers, and those with power boats or sail boats, will probably stay away from these areas, but canoeists and anglers will still enjoy them.

The quality of all forms of boating recreation should improve over what they were prior to the 1990 drawdown. In areas that are treated, such as around the boat ramps, marinas, and main travel ways, the weeds will be kept under control. Most recreationists, if they stay in the well-traveled, treated parts of the lake, will have the quality recreation experience they expect.

The aquatic weeds detract from the lake's beauty when they reach the surface in July and August. Treated portions of the lake will remain relatively free of weeds. As the harvester will work in areas where the majority of the recreation use occurs, the lake will appear to be relatively free of weeds.

In time, recreation activities may become segregated. Canoeists and anglers will use the areas with weeds; power boats and sail boats will use the open water. Keeping the weeds out of the main travel ways with the weed harvester will benefit all recreationists.

Vegetation Management's Impact on Wildlife - The lake is prime waterfowl habitat, is used as a staging area and breeding ground by ducks and geese, and has some of the best duck hunting in Grand County; the two drawdowns reduced waterfowl habitat. A method to improve boating and other recreation activities while maintaining a reasonable amount of waterfowl habitat is desirable. The 1991 drawdown impacted fish in the Colorado River below the dam by stranding fish when the river's flow was reduced. The lake is habitat to several sensitive wildlife species and has potential habitat for sensitive shore birds.

The proposed project should not adversely affect any Federal or State threatened, endangered or sensitive species or their habitat. Operation of the weed harvester will have no effect on bald eagles and their habitat. By keeping the harvester away from wetlands, there will be no negative effects on ospreys, river otters, wood frogs, tiger salamanders or their habitat. There may be minor beneficial effects for the common loon, osprey, and river otter by making food more readily available.

Waterfowl who use the lake either during migration or for nesting often feed on the aquatic weeds. The two drawdowns eliminated much of the weeds, thus eliminating part of their food source. This was indicated by reduced numbers of waterfowl in the area during the past couple of years. Allowing weeds to grow in parts of the lake will allow this source of food to again be found in the lake. Waterfowl numbers are expected to increase as the aquatic weeds increase.

Treatment Area Priority - A limited number of acres can be treated each year by the weed harvester, so treatment areas must be prioritized; some people or groups will be unhappy with whatever priority is used.

✓ Three sides of Shadow Mountain Lake's shoreline is mostly private land. Most of the private land has single family homes, summer cabins, or multi-family structures. There are two marinas on the lake. In addition to the Green Ridge Campground, the Forest Service has two picnic areas and two boat ramps on the lake. Most of the east shore of the lake is within Rocky Mountain National Park.

Because the majority of the recreation activity connected with Shadow Mountain Lake involves water, the aquatic weeds within the lake have a major affect on recreation and the resulting quality of the recreation experience. The aquatic weeds impact recreation by keeping boats out of weed clogged parts of the lake. This can be as minor as an inconvenience to a water skier, or as major as preventing shore line property owners from using their boat docks. Weeds in an area can prevent power boats from going into that part of the lake, but not affect canoeing.

Treatment priority will be given to those areas that receive the most recreation use, such as main travel-ways, boat ramps, and marinas. Those areas that receive exclusive use, such as around private boat docks, will have a low treatment priority. Because of the limited amount of area that the weed harvester can treat in a year, those areas with a low treatment priority will not be cleared of weeds most years. This means that some, possibly most, shore line property owners will be unhappy when the area around their private boat dock is not cleared of weeds.

In areas that are treated, such as around the boat ramps, marinas, and main travel ways, the weeds will be kept under control. Most recreationists, because they will stay in the well traveled, treated parts of the lake, will have the quality recreation experience they expect.

Operation and Maintenance Budget - Who will pay for the weed harvester's operation has been controversial ever since the harvester was delivered to the Forest Service in 1992. Many people feel the Forest Service should pay the entire cost of the weed harvester's operation and maintenance, regardless of the consequences to other programs. Others feel that the lake users who benefit from the harvester's operation should help cover its cost.

The Sulphur Ranger District cannot afford to pay for the full cost of the harvester's operation without reducing services to other recreation programs. The District will not do that because other recreation programs, such as campgrounds, are at least as important to the Forest Service and the community as operating the weed harvester.

The Forest Service, with the help of members of the community, developed a plan to pay for the harvester's operation that involves donations and cooperative funding. I feel that this plan is worth trying, and that it has a good chance of success. The Sulphur Ranger District's contribution will not significantly impact other District programs, but at the same time it will provide a reasonable portion of the harvester's operational funding. The remainder of the required funds must come from other sources. A detailed description of the financing proposal can be found in Appendix E of the EA.

Finding Of No Significant Impact On The Quality Of The Environment

The *Environmental Assessment* indicates that:

- The proposed action will not have significant effects on the quality of the human environment, either as an individual action, or as part of the cumulative effect of other past, present and planned actions within this area.
- The proposed action does not affect public health and safety.
- There are no unique characteristics of this area which would set it apart from similar areas where there is experience with this type of project. Shadow Mountain Lake is not in proximity to historic or cultural sites or resources, or prime farm lands. Shadow Mountain Lake is adjacent to Rocky Mountain National Park but the proposed action will not affect the park. It does not contain wetlands, wild and scenic rivers or ecologically critical areas. There will be no significant effect on the ecology of the lake.
- The effects of the proposed action are not highly controversial.
- The effects of the proposed action on the human environment are not highly uncertain, nor do they involve unique or unknown risks.
- The proposed action is not precedent-setting. It does not establish a precedent for future actions which may have a significant effect on the environment. It does not represent a decision in principle about a future consideration.
- The proposed action will not adversely affect districts, sites, highways, structures or objects listed in or eligible for listing in the National Register of Historic Places. The proposed action will not cause loss or destruction of significant cultural, or historical resources.
- The proposed action will not adversely affect endangered or threatened species or their habitat.
- This action complies with other federal, state or local laws and requirements imposed for the protection of the environment.

Based on the findings in the *Environmental Assessment*, I find that this project will not have a significant effect on the human environment and is excluded from documentation in an Environmental Impact Statement.

This decision is effective fifty (50) days after publication of the legal notice of the decision.

This decision is subject to appeal pursuant to Forest Service Regulation 36 CFR Parts 215 and 217 (Federal Register, Vol. 58, No. 212, November 4, 1993, pages 58904 to 58916). To initiate an appeal, a written notice must be submitted to:

Forest Supervisor
Arapaho and Roosevelt National Forests and Pawnee National Grassland
240 West Prospect Road
Ft. Collins, CO 80526-2098

within 45 days of the date of this Decision, with a concurrent copy to the Deciding Officer:

George S. Edwards, District Ranger
Sulphur Ranger District
P.O. Box 10
Granby, CO 80446

Any notice of appeal must, at a minimum:

1. State that the document is an appeal filed pursuant to 36 CFR, Part 215;
2. State the name, address and, if possible, the telephone number of the appellant;
3. Identify the decision document by title and subject, date of the decision, and name and title of the Responsible Official;
4. Identify the specific change(s) in the decision that the appellant seeks or portion of the decision to which the appellant objects;
5. State how the Responsible Official's decision fails to consider comments previously provided, either before or during the comment period specified in {216.6 and, if applicable, how the appellant believes the decision violates law, regulation, or policy.

Notices of appeal that do not meet the requirements of 36 CFR 215.14 shall be dismissed.

For further information contact:

Richard P. Caissie
Sulphur Ranger District
P.O. Box 10
Granby, CO 80446
(303) 887-3331.



GEORGE S. EDWARDS
District Ranger

4/18/94
Date

Appendix II.

Letter from the Forest Supervisor Arapaho and Roosevelt National Forests



United States
Department of
Agriculture

Forest
Service

Arapaho an
Roosevelt Na's
Pawnee NG

Reply to: 2330 Publicly Managed Recreation Areas

Date: DEC 17 1993

Subject: Funding of the Weed Harvester

To: District Ranger, Sulphur RD

From: Forest Supervisor, ARNF

The question of funding the operation of the weed harvesting machine that was acquired by the Bureau of Reclamation and transferred to the Forest Service, has been one of continuing concern. I am aware that Public Law #95-450 gives the responsibility to the USDA Forest Service to manage aquatic vegetation within the Arapaho National Recreation Area, particularly on Shadow Mountain Reservoir. I am also aware that through the efforts of citizens' groups the acquisition of the weed harvester was made possible. This is a truly positive step and provides the Forest Service a tool by which management of the aquatic vegetation may continue following the successful draw-downs.

Unfortunately, funding for aquatic weed control must be taken from the appropriated recreation budget that has been allocated to your District. As we have discussed, your budget is not sufficient to fund the weed harvesting operation without giving up some of your other responsibilities in recreation management. It is unacceptable for us to give up managing back country use, developed campgrounds and picnic areas or lake surfaces, which consists of buoy placement, and weekend patrols. Therefore, your latitude to finance the weed harvester is extremely limited. The only way the Forest Service can affect a significant aquatic weed control program is through a partnership with other benefitting parties.

I am asking you to forge such a partnership. It seems to me that if enough partners can be involved in this beneficial project, the cost for each partner will be relatively small and the benefits to each will be truly significant. If other interested parties on Shadow Mountain Reservoir are not willing to participate, I see no alternative other than deferring the operation of the harvester until funding is secured. You are not authorized to operate the harvester without matching your limited funds with funds from cooperators.

Please be assured that I am in complete agreement with your positive efforts to manage the aquatic vegetation on Shadow Mountain Reservoir. You have made significant progress working with other groups and agencies in beginning aquatic vegetation management. The bottom line is that these early efforts would not have been possible without the cooperation of many agencies and individuals. This concept of many of us working together for a common cause must be the basis of future efforts in this long range management effort.

M. M. UNDERWOOD, JR.
Forest Supervisor



Appendix III.

**Newspaper Articles
from
The Ski-Hi News of Granby, Colorado**

l-wide soil loss tens food supply

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tries can hope to achieve sustain-
able agriculture in the near
future."

Saouma said food shortages
in Latin America and Asia also

could occur as a result of the soil
loss.

Only 11 percent of the
Earth's land is suitable for farm-
ing.

BOCC turns down weed eater operation funds

Citing upcoming budget cuts,
the Grand County Commission-
ers Tuesday flatly rejected any
idea of the county helping fi-
nance operation of the U.S. For-
est Service's new aquatic vegeta-
tion harvester.

"It would be a bad use of
county money. I don't think we
should get involved to provide
any money," Commissioner Paul
Ohri said.

The commissioners said oth-
er government agencies have a
more direct interest in the ma-
chine's operation than the county
has. They suggested an increased
involvement for its funding
could come from the Northern
Colorado Water Conservation
District, the Grand Lake Metro-
politan Recreation District and
the Town of Grand Lake.

Purchased late last year for
\$76,000 of Bureau of Reclama-
tion funds, the harvester has no
federal money budgeted for its
operation. Its owners, the Sul-

phur District of Arapahoe Nation-
al Forest, have said the funds for
the machine's operation would
have to come from local sources.

Purchase of the harvester was
prompted by the growth of non-
native water plants which began
to choke the shoreline and shal-
low areas of Shadow Mountain
Lake in recent years. This creat-
ed problems for boaters, fisher-
men and marine operators. Prior
to the harvester's purchase, two
expensive drawdowns of the
lake's water level was required in
1990 and 1992 to remove the
weeds by hand.

Grand County Manager R.
Howard Moody pointed out the
weeds have not been a real prob-
lem this year as a result of the
1992 drawdown and the har-
vester's use this summer has not
been a necessity. He told the
commissioners he plans to work
with local groups to come up
with a funding solution for the
machine's future use.

'Weedeater' funds demanded

The Three Lakes Communities Association passed a resolution demanding funds from the U.S. Forest Service for the operation of its "weedeater" or Aquatic Vegetation Harvester on Shadow Mountain Reservoir.

Members present at the Association's Annual Meeting on Sunday, Aug. 15, unanimously passed the following resolution:

Whereas, the Arapaho National Recreation Area was created giving the United States Forest Service responsibility for maintaining a quality recreational environment within the boundaries of the area, and

Whereas, the control of weeds in Shadow Mountain Reservoir is essential to the recreational environment of the area, and

Whereas, the United States Forest Service was given a \$75,000 machine designed to mechanically harvest the weeds in Shadow Mountain Reservoir,

Now, therefore, the Three Lakes Communities Association requests that the Grand County board of County Commissioners take whatever action is necessary to cause the United States Forest Service to fulfill its statutory obligation and fully fund the operation of the weedeater on Shadow Mountain Reservoir.

Emergency agencies to receive upgrading money

Four emergency response agencies in Grand County will be getting grant money to upgrade their equipment in the next few months.

The four agencies are: Grand County Search and Rescue, \$4,875 for communication and rescue equipment; Grand County Emergency Medical Services, \$8,139 for communications equipment; Grand Valley Fire Protection District, \$3,132 for vehicle extrication equipment; and Kremmling Fire Protection District, \$3,263 for vehicle extrication equipment.

The money being provided to the four agencies is part of \$2.3 million in grants being distributed to a total of 122 agencies across the state. The grant money comes from the dollar surcharge which Coloradans pay on motor vehicle registrations and is being awarded by the Colorado Department of Health's Emergency Medical Services (EMS) Division.

"This program will significantly improve the quality and timeliness of

EMS director. He explained the grants would be "keeping local EMS programs from deteriorating further."

Before the Colorado General Assembly passed the legislation for the EMS grant program in 1989, some areas of the state were without ambulance service or people trained as Emergency Medical Technicians, or both.

"Prior to to being involved with the EMS program, I always thought if I were badly hurt in an accident anywhere in Colorado, paramedics would come within a short time to provide emergency care and transportation. I discovered this was not the case in some areas. Since the legislation took effect, local systems have been improved," said Arleen Way, the EMS grant manager.

Prior to the program, Colorado ranked 38th in the nation for EMS funding. Now the state ranks 17th.

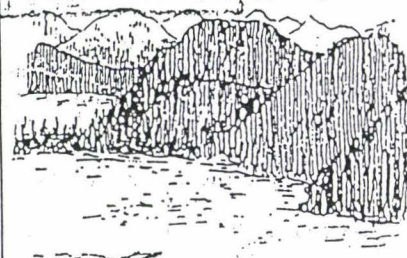
To get the grant money, the agencies must demonstrate their need, the equality of services in comparable areas

"The Shadow Mountain weed problem is not going to be solved by having this expensive machine sit idle," said Gordon Scheer, the Three Lakes President. "The community rallied support last summer that led to the purchase of the weedeater and its presentation as a gift to the Forest Service. So far the Forest Service has not kept its part of the bargain to provide funds for the continuing operation of the machine. The weedeater needs to be in continual use all summer in order to keep up with or ahead of the weed growth."

When the "weedeater" was launched on Shadow Mountain Reservoir last month, Arapaho National Forest officials said no money had been budgeted for the machine's operation and none was expected in the foreseeable future. They said funding would have to come from local sources.

At their Aug. 17 meeting, the Grand County Commissioners rejected the suggestion that funding come from county government funds.

Local Weather



Date	H	L	P
Aug. 18	70	45	.12
Aug. 19	74	38	T
Aug. 20	75	38	.0
Aug. 21	70	40	.0
Aug. 22	71	38	.02
Aug. 23	77	34	0
Aug. 24	75	36	.0

Granby Reservoir Level

8269.82 feet

Maximum Level

8,280.00 feet

(Present level is down .075)

Hoeses parents of baby boy

Fred and Laura Hoes of Granby are the parents of a new baby boy Frederick Gordon, who was born July 9 in Denver Presbyterian Hospital weighing 6 lbs. and 8 oz.

Maternal grandparents are John Salamoni and Maureen McKerns of Boulder. Paternal grandparents are Fred and Cheryl Hoes of Granby.

Oct 7, 1993

Buck being passed on weed-eater

by Patrick Brower

Two leading Grand Lake area associations feel strongly that the expense of operating the recently acquired weed-harvester is the responsibility of the U.S. Forest Service.

But the U.S. Forest Service, which recently received the new weed-harvester due to lobbying efforts of private citizens, says it doesn't have the

money to operate the brand new \$67,000 machine.

It has suggested that the "private sector" needs to put together an effort to pay for running the machine.

Yet many Grand Lake area residents who have been involved in water quality issues in Grand Lake, Shadow Mountain Reservoir and Lake Granby

for many years are unequivocal in their belief that operating the weed-harvester is the U.S. Forest Service's legal responsibility and obligation.

Gene Tardy, a Shadow Mountain Lake property owner who is president of a leading lake protection association, said the U.S. Forest Service is clearly responsible for the management of the water in Shadow Mountain Lake.

Tardy is president of the Upper Colorado River Lakes Protection Association (UCRLPA), a consortium of Three Lakes area property and business owners who banded together to solve the problem of weeds proliferating in Shadow Mountain Lake and other water-quality issues.

As well, the Three Lakes Communities Association, another group of Grand Lake area residents and homeowners, passed a resolution in August that urged the Grand County Commissioners "to take whatever action is necessary to cause the United States Forest Service to fulfill its statutory obligation and fully fund the operation of the weed-eater on Shadow Mountain Reservoir."

Both groups refer to the federal law that created the Arapaho National Recreation Area, a large chunk of U.S. Forest Service land in which Shadow Mountain Reservoir is located.

The law states that the government shall provide for "the management of water quality in the recreation area consistent with the development of needed water supply and waste-water systems, including the control of aquatic vegetation in the streams, lakes and reservoirs within the recreation area."

As UCRLPA member Stoddard White said, pointing out the above passage: "(it) sets out the legal obligation of the U.S.F.S. to operate the weed machine. We want them to get to work and do their job."

Grand County was asked to come forth with funds to help pay for the operation of the weed-harvester, but the county's board of county commissioners refused to offer any funds.

Tardy said the Forest Service has been indifferent about water quality in the area for many years and that its failure to act on providing funds to operate the weed-eater reflects that historical indifference.

He said many people from Grand County and the Front Range, including Rep. David Skaggs (D-Boulder), worked very hard in lobbying for a weed-harvester for Shadow Mountain Reservoir. Federal funding was provided and the machine was delivered to the Forest Service last winter.

"I think it's completely unfair and unrealistic of the Forest Service to expect the public sector to go and get the machine — which we did — and then turn around and expect us to operate it," Tardy said. "We kept our word and got those funds."

He said the Forest Service promised that it would operate a machine if a machine could be acquired.

He added that the Forest Service has known "for years" that a machine would be in Grand County and that it would need to be operated, "but they did nothing."

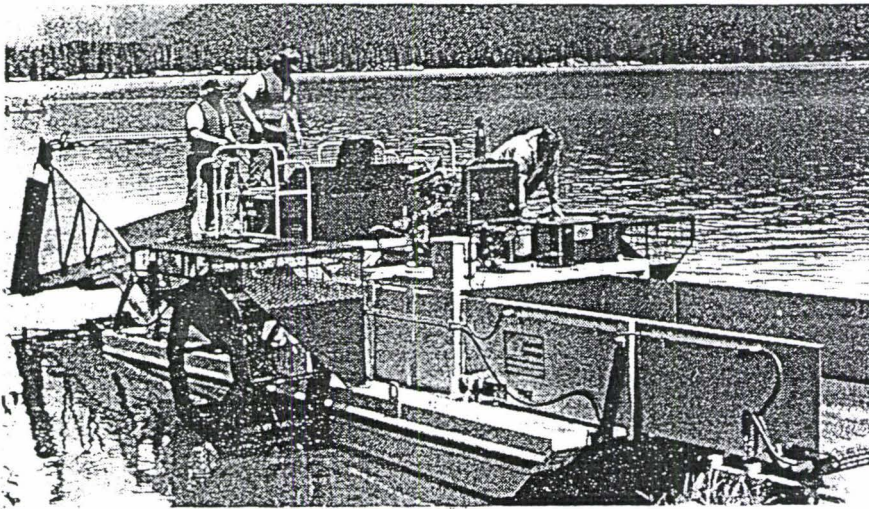
"It doesn't boil down to staffing," Tardy said. "It boils down to the need for them to prioritize."

Tardy said he felt it was unfortunate that the Forest Service hasn't seen the potential for using the machine as a way to generate revenue for the Forest Service by using the machine in other bodies of water in the area that need to be cleared of weeds.

He said that for Shadow Mountain Lake he felt it would need to be operated by two people for two to three months a year. The rest of the time it would be free for other uses.

But he said the legal obligation is clear.

"Ultimately, it comes back to the Forest Service again."



In Dry Dock?

Many questions remain about who will pay for operations and maintenance for the aquatic weed harvester for Shadow Mountain Lake. The \$76,000 machine was provided to the Forest Service from Bureau of Reclamation funds. But the Forest Service says it doesn't have the money to operate the machine. Property owners who lobbied for the harvester say it's the Forest Service's responsibility. (Photo by Will Bubltz)

USFS says money isn't there

by Will Bubltz

In spite of public criticism, Arapaho National Forest officials still insist government money is not available to pay for the operation of the Aquatic Vegetation Harvester on Shadow Mountain Lake.

"If we take money from our budget to pay for its operation, something else will have to be sacrificed," said George Edwards, the Sulphur District Ranger. "Our priorities are to keep our current programs going. The only way we could pay for it is to make trade-offs which would not be acceptable."

Hospital is in need of photos

Kremmling Memorial Hospital is seeking donations or loans of historic, framed photographs or scenic photos of the Kremmling and Grand County region. Paintings are also appreciated.

The photos and/or paintings will be used to decorate the newly renovated halls and the new Extended Care Center wing.

Also needed is a piano for the Extended Care Center activities room.

A special open house for KMH and the Extended Care Center is scheduled for senior citizens on October 15 from 1-3 p.m. and for the general public on October 17 from 1-4 p.m.

For more information, call Sue Dutko, 724-3442.

Edwards explained that if the District were to fund the "Weed-eater," the money would probably have to come out of necessary programs such as campground maintenance. A total of \$25,000 is estimated to be needed to annually operate and maintain the machine.

"We are operating under a constrained budget. Our first priority is to maintain our campgrounds and keep them open. A sum of \$25,000 equates to five seasonal employees who work at those campgrounds," he said.

In answer to the charge that the Forest Service is not obeying federal statutes to manage lake vegetation, Edwards pointed out the Congress who passed the statute must also appropriate the funds to implement it. Congress is not expected to increase funds for the District in what he called "this era of austerity."

"Congress has begun to realize there is only so much money. Next year's budget is expected to be comparable to this year's or less. I've talked with my boss, Skip Underwood, the Forest Supervisor of Arapaho-Roosevelt National Forest, who confirmed that no additional funds can be expected in 1994," he said.

With no additional money coming, Edwards said the only viable option to get the Weed-eater in operation next year is a "partnership." He suggested the cost of the machine's operation could be shared between landowners, marina operators and local organizations.

"I really think the benefiting recreationists and businesses that use the National Recreation Area should help contribute to the cost of aquatic vegetation management. The public has

got to realize that government is not going to be able to pay for every project," he said.

Later this fall, the Sulphur District intends to begin contacting local groups about the proposed partnership. Edwards said he hoped the "Weed-eater" could be in operation next summer.

The Aquatic Vegetation Harvester was bought last year through \$76,000 in funds from the Bureau of Reclamation and delivered to the Sulphur District last winter. It was launched on Shadow Mountain Lake in July, but has operated only one day at clearing aquatic weeds because of their low growth this summer. District officials said weeds were not a problem this year because of the late melting of the lake's ice and the residual effect of previous weed clearing.

To control the weed problem in the past, "drawdowns" or the lowering of Shadow Mountain Lake's water level had to be done in 1990 and 1992. This expensive and labor-intensive work was the result of cooperation between the Forest Service, Bureau of Reclamation, Western Area Power, Northern Colorado Water Conservancy District, Grand County, Colorado Division of Wildlife and Grand Lake-area groups.

The purpose of the "Weed-eater" is to control the growth of the non-native aquatic plant Elodia which chokes Shadow Mountain Lake's shoreline and shallows.

Approximately 120 acres of the lake's 600 acres of this weed needs to be regularly cleared. In past years, the weeds have caused a navigation problem in the lake by tangling in boat propellers, especially around docks and channels.



Opinion

Weed harvester funding responsibility is clear

It has been a great disappointment for many Three Lakes area residents to watch the U.S. Forest Service flat-out refuse to help with funding the operation of the new weed harvester on Shadow Mountain Lake.

It's been disappointing for two reasons. For starters, the Forest Service has been doing a good job of working with local residents in the past five years to try and resolve the problem of proliferating weeds in Shadow Mountain Lake. The weeds, which hamper boat traffic, create a stench and hurt marina business, have been a problem for many years. Finally, five years ago, the Forest Service started to play a role in helping resolve this problem, even though it was at the persistent urging of local citizens. But it did play a role, and it deserves credit for that.

But it was all as if to set many people up for a great disappointment. Now the forest service refuses to even consider funding a position (estimated to cost \$25,000 a year) to operate the weed harvester two to three months a year. Just when people thought the federal government might do something concrete and tangible to help, the federal juggernaut stopped.

Then there's the fact that many people and groups bent over backwards to secure federal (not Forest Service) funding for a weed harvester. A total of \$67,000 was spent and the

weed harvester was delivered last winter. The private sector, through lobbying and sincere efforts, worked to get the Forest Service a machine to keep the lake clean. And now the Forest Service says it won't operate this machine. This isn't disappointing — it's a slap in the face.

But even more germane is the U.S. Forest Service's disregard for the federal law which clearly states that the Forest Service has responsibility for managing and maintaining water quality in the Arapaho National Recreation Area (ANRA). Shadow Mountain Reservoir is a major part of the ANRA. The federal law even goes so far as to state "vegetation" as an area under the Forest Service's purview.

There can be no questioning of the legal and moral responsibility of the Forest Service to fund the operation of this harvester. Yet still the Forest Service claims it doesn't have the staff or funding for such a job.

We feel, however, that when it comes to the problem of the weeds there's another group which should take some responsibility: the Northern Colorado Water Conservancy District (NCWCD). This is the district that campaigned so hard to build the Colorado-Big Thompson Project. Its responsibility is to allocate the water

which flows through Shadow Mountain Reservoir. Since its property owners and members benefit directly from the water which flows through Shadow Mountain Lake, it follows that it should shoulder some responsibility for the problems the water creates. The fact is, without the NCWCD, there would not even be a Shadow Mountain Lake.

Perhaps the two entities could work together to fund this \$25,000 a year to ensure that the lake is cleared of weeds. Certainly the Forest Service could fund this without taking funds from direct people-contact workers, such as campground maintenance, as has been suggested. Of course, this is threatened because those are the workers that have some tangible benefit. Why not look at the money paid to some planner in Fort Collins rather than the "front-line" people here in Grand County?

It's not right, after all that's been done, for other agencies to try and push on to the "private sector" a job it can't possibly do. The "private sector" of Grand County didn't ask for Shadow Mountain Lake and it certainly didn't want the weeds that came with the lake. It's the responsibility of those who are charged by law to manage the lake, and those who benefit from its water, to keep the lake clean.

require thought

To the Editor:

I am writing in regard to the proposed mill levy being requested by the East Grand School District. I believe that this involves one of the most important issues that we, as taxpayers, as citizens, and as parents, must address.

There are several questions that we need to ask ourselves regarding our

ensure a better future, even though they may require some sacrifice on our part now? What are we trying to accomplish? What are our priorities?

We could choose to stick our heads in the sand, and ignore the serious problems facing education today, assuming that the next generation will figure out a way to solve them. Unfortunately, this approach has been used in the past, and all it has accomplished is to make the problems harder to solve and create new ones. Our other choice

There is no question that there is a need for more accountability in government on all levels. To reach this goal will require action, not reaction. We need to use the power given us by Amendment One responsibly, and be well informed when a taxing district requests additional funds. If the objective is sound, and lends itself to the efficiency and quality of the services provided, then serious consideration should be given to granting the request. To use this power as a means of simply limiting and possibly decreasing your tax

a reaction, not a solution.

Please take the time to be well informed concerning this request from our local school district. In this case, I believe the objective is sound. Yes, we do need to require that our tax dollars be put to the most effective and efficient use. Not, however, by hampering the ability of any taxing district to do the job it was created to do.

Hugh Auchincloss
Fraser

Reader looking for return of Daily Tribune

To the Editor:

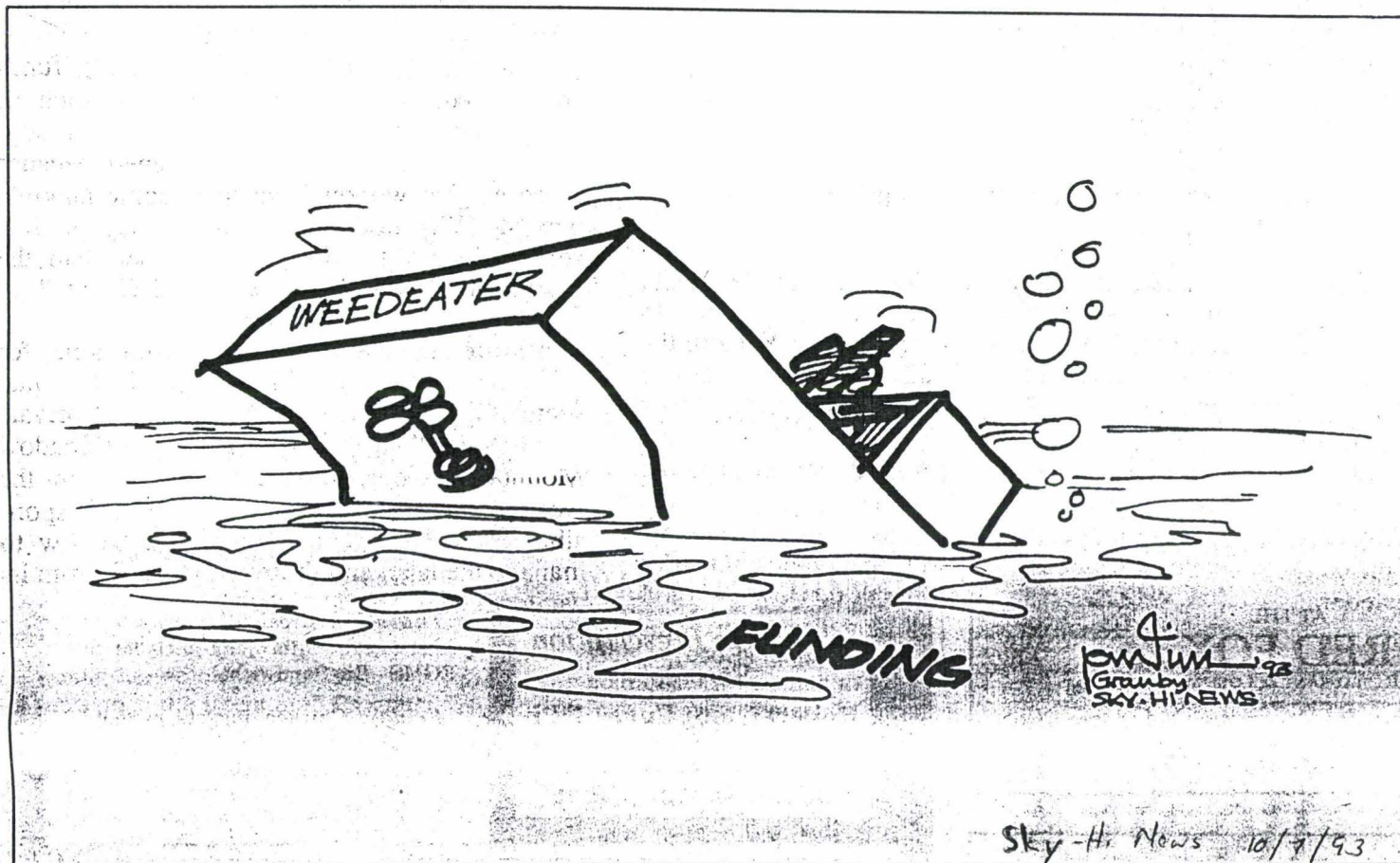
Just a note to let you know that we enjoyed your daily paper very much.

I was all ready to send this message when you stopped the Daily, and I do understand why. We will be glad when it's back.

I really enjoyed Mike Royko in the Oct. 1 issue. I wonder if he saw an item — and I can't recall what paper or magazine — that if you use the same bar of soap to wash your hands that others use, you'll get the germs from that soap! Thought he might like to know it's dangerous to wash before you eat all that bad food!

Keep up the good work, all of you. We appreciate your little paper.

Sincerely,
Bernice Overholt
Kremmling



Shooting youth football is a change, but fun



Opinion

Weed eater "solution" still leaves questions

It was gratifying to learn that the U.S. Forest Service has been working with people on a compromise solution for funding the operations of the newly acquired weed eater. And while the solution still leaves a lot to be desired, it points out the fact that the question of funding the machine's operation simply won't go away.

But with the proposal that's been offered now, it looks as if the question will go away for at least one summer season. That's not because the proposed solution is the best — it isn't. It's because the weed problem isn't likely to be a major issue next summer because there aren't likely to be many weeds to clear. Soon, this proposed funding method will be put to the test.

As a story in this week's issue reveals, the goal is to put out "donation" canisters that allow people using the waters on Shadow Mountain a chance to freely give money for the cause of clearing the weeds. This voluntary pay approach is good in principle for a variety of reasons. For starters, such a method removes any tax dollars from the operational funding picture. Also, for a while at least, it takes the federal government off the hook when it comes to maintaining the water quality on Shadow Mountain Lake.

The forest service still contends, and vociferously, that it doesn't have the funds to operate the weed eater. It has proposed that private

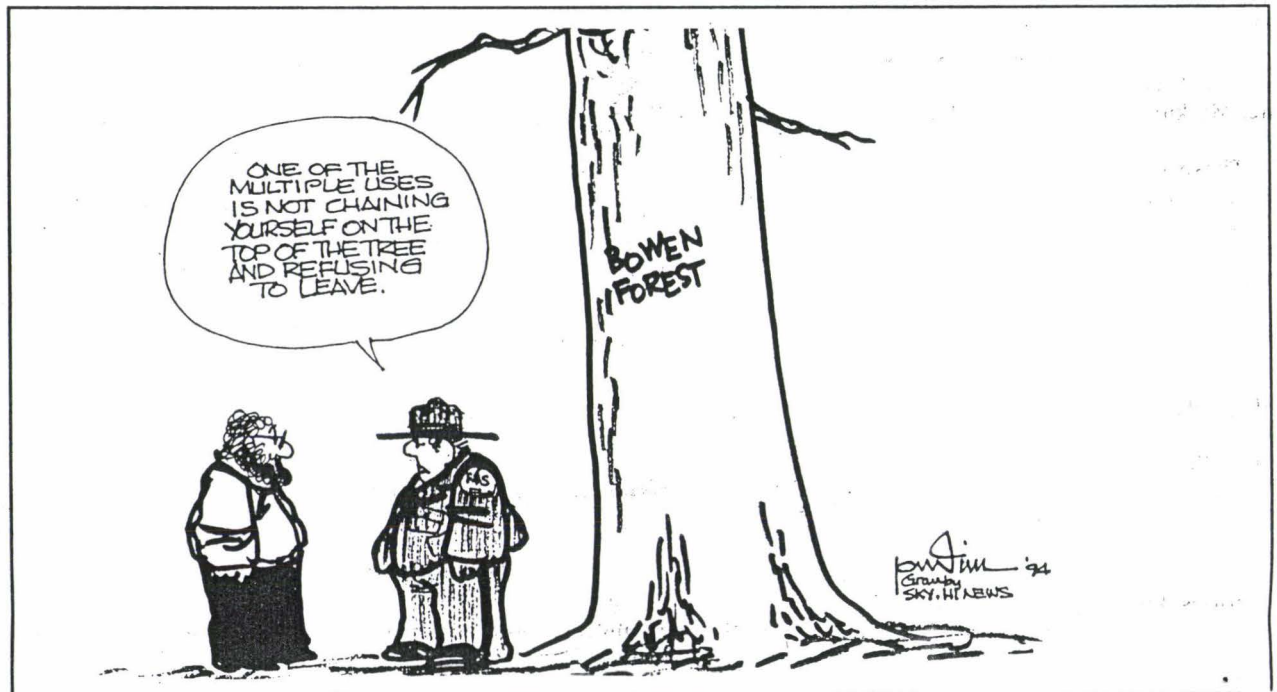
partnerships work together to pay for the machine's operation. It has tried to get Grand County and regional governments to pitch in to pay for the machine's operations. But all those attempts have failed.

Many private individuals and even some locally organized associations feel that it's the forest service's responsibility to maintain the water quality on Shadow Mountain Reservoir. Federal law has been cited which clearly points the finger at the U.S. Forest Service. But the forest service continues to plead that it doesn't have and, even worse, can't get, the money to

operate the weed eater. So now the plan is to ask for donations.

Perhaps it's good to give the donation plan a try since this year isn't seen as one when the machine will need to operate much. And certainly, whatever funds that can be gained through that plan would be appreciated and well used.

But we hope this doesn't preclude the forest service from asking, through its formal budget process, for funds to operate the weed eater in 1995, or 1996, or 1997...



Public is asked to fund weedeater

by Will Bublitz

A plan to settle the dispute over who will pay for the the Aquatic Vegetation Harvester on Shadow Mountain Lake was reached at a meeting held Friday, Jan. 7.

Attended by several local government agencies and citizen's groups, the meeting at the Granby Community Center came up with a tentative plan to fund the harvester by relying solely on public donations. Collection boxes will be distributed this spring and summer at a number of locations such as boat docks and marinas.

Under the plan, the Sulphur District of Arapaho National Forest will operate and maintain the machine. It will also be responsible for setting up the donation boxes and signs on national forest lands.

Grand County government will act as the depository for the donations and disburse the funds when needed. The reason another agency such as the county must do the actual money collection is because National Forest officials are required by law to send all fees and donations to the U.S. Treasury Department. If that were to happen, the donations collected for the harvester might not be allocated by the Treasury for its intended purpose.

Decals, which will be paid for by Grand Lake Estates Homeowners, will be given to contributors to encourage them to donate money. Some other local groups and agencies said they would consider paying for newspaper advertising to inform the public on the need for donations.

The meeting's plan may end the public argument that has been going on between the National Forest Service and local groups over who is responsible for paying for the harvester's operation and maintenance.

The Aquatic Vegetation Harvester was acquired by Arapaho National Forest in late 1992 in order to remove a non-native, underwater plant called *Elo-dia* which has infested Shadow Mountain Lake. That plant has choked the lake's shallow areas which has made boat navigation and docking very diffi-

cult. In 1990 and 1991, drawdowns or the actual lowering of the lake's surface were required to remove tons of the plant.

Since the harvester was first launched on the lake last summer, Sulphur District officials have maintained that they have no money in their budget to pay for the machine's operation. They have advocated a partnership arrangement in which they would operate the machine and local groups would pay for it.

In opposition, local groups have argued the machine is owned by the Forest Service and accused that federal agency of failing to obey Congressional laws. Citing Public Law 95-450, which created the Arapaho National Recreation Area in 1978, they said the Sulphur District is failing to administer the ANRA "in such a manner as will best provide for . . . the control of aquatic vegetation in the streams, lakes and reservoirs within the recreation area."

To attempt to settle the problem, officials of the Sulphur District called for

Friday's meeting. Representatives of the Northern Colorado Water Conservancy District, Grand Lake Estates Homeowners Association, Colorado Division of Wildlife, Grand County, Northern Colorado River Lakes Protection Association and Trail Ridge Marina attended. No one from either the Town of Grand Lake or the Grand Lake Metropolitan Recreation District attended the meeting.

At the meeting, Sulphur District officials explained that no money has been currently earmarked by Congress for the harvester's operation and maintenance even though their legislation had ordered the district to do it. They said any new funding was unlikely to be granted by Congress in this era of budget cuts and the current money which the district gets is needed to maintain other services.

"Congress appropriates only so much money for the district and we don't have that much latitude in how we spend it. We are constrained by the number of dollars we can manipulate," said George

Edwards, the Sulphur District Ranger.

Edwards went on to explain the Sulphur District gets \$153,000 for developed recreation spending on the management of eight campgrounds, six picnic areas and five trailheads. Another \$68,000 goes for dispersed recreation spending to manage 200,000 acres of backcountry and the management of the surface water (boat patrol, search and rescue and hazard marking) of two lakes. If any of this money were used for the harvester, some of these current functions would have to be cut.

"We can't manage all functions to 100 percent because Congress doesn't appropriate all the funds that are needed. It comes down to a matter of priorities," Edwards said.

The district's Recreation Staff Officer, Rick Caissie, said the harvester might not need to be fully used this summer because of the continuing impact of the two previous drawdowns. He said the machine can anticipate its first full season of work in the summer of 1995 when the underwater weeds are expected to have grown back to their previous levels.

Caissie estimated the cost of operating the harvester for 14 weeks from mid-June through September to be \$17,000. Another \$10,000 would need to be added for depreciation to replace the machine in 10 years.

A public meeting on the plan to fund to harvester is scheduled to be held on Friday, Jan. 28, time and place to be announced.

Tree workshops planned

Anyone interested in learning the proper way to plant seedling trees is invited by the Colorado State Forest Service to two workshops in Grand County next month.

The free workshops will be held at the Kremmling Town Hall on February 9 and the Fraser Town Hall on February 10. Both are at 7 p.m.

John Grieve, State District Forester for Summit, Grand and Eagle Counties, will conduct the workshops which will be focused on conservation plantings of seedling trees. He will discuss site selection and preparation, species selection, planting methods, tree spacing and seedling care before and after planting.

"Seedling tree plantings require careful planning, implementation and follow up care in order to be successful," Grieve said.

The workshops provide a forum for

landowners and foresters to exchange information on successful plantings and also problems that lead to failed plantings.

"Experience is the best teacher and people often share their tree planting experiences at these workshops. I have learned a lot about tree planting from others," Grieve said.



**ON THE
EDGE
OF COMMON
SENSE**
Dorothy Black
D.M.

TRUE ENVIRONMENTALIST

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Watch the paper for Local's Appreciation Days

Phase II remodeling will be done by June 10, including
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*Your donation to the Shadow Mtn. Lake
Weed Harvester Fund will help to keep
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*Without your help, operating funds are
not sufficient for this season*

Donation boxes at boat ramps at:

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Grand County SML Fund
Sulphur Ranger District • P.O. Box 10
Granby, CO 80446

Support Clean Water

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Our Readers Write

Affluent complainers can pay their way, saving tax dollars

To the Editor:

Most people do not object to taxes used for recreational purposes that benefits those less advantaged than themselves. But tax money directed toward recreation for those more advantage (ie,

in a position to pay) is a horse of a different color!

The \$75,000 weedeater was tax-supported pork. It was the expenditure of the tax money of many, purchasing a dubious benefit for the few. If those most benefited by this machine are unwilling to at least pay for its operation, the larger tax-paying public should not be asked to do so.

Bare-bones funding of ongoing recre-

ational programs of value to the general public should not be sacrificed to serve the pleasuring desires of a small, specific public, especially when they are quite able to pay.

Gouging the many for the benefit of a few is not virtuous.

Wendell Funk,
Grand Lake

Manitou Springs seeks help to foil gamblers

To the Editor:

Manitou Springs needs help. The situation here can be likened to watching an old western at the Saturday motion pictures, where a few crooked townsmen strongarmed everyone in the territory, took away everyone's rights and there was nothing anyone could do about it until the U.S. Marshal came.

Three men — two motel owners and a Denver developer — have devised a clever way to take over our city against our wishes. They formed a private corporation, named it ARPT, LLC and drew up a legal document called Amendment 13. They disguised this amendment to the State Constitution as a blessing for airports and education. It is really designed to make them fabulously wealthy men who will take over our city for gambling interests and control all gambling devices — 10,000 of them.

Twice our city has voted against their efforts to get gambling in Manitou. The last vote was 88% against. We supported local option in our state to keep gambling interests from swallowing us up.

Amendment 13 overrides the local control law and says this small group of men with their private corporation are also to be exempt from the financial restrictions of Amendment 1.

Continued on Page 10



Weedeater plan revealed, funding still tight

by Patrick Brower

There's good news and there's bad news concerning the planned 1994 summer operations of the Shadow Mountain Lake weed harvester.

The good news is that it will operate. The bad news is that it will operate only as long as funds last, which currently represents about 18 days of work.

To gain more money for the operations the U.S. Forest Service, which has jurisdiction over Shadow Mountain Lake, and Grand County are both seeking donations to a special fund that will help pay for the operations of the harvester.

The weed harvesting machine was acquired by the forest service following

extensive lobbying efforts by a group of property owners on Shadow Mountain Lake and Grand Lake which calls itself the Upper Colorado River Lakes Protection Association.

Weeds were proliferating in the lake and causing problems for boating, fishing and general recreation on the lake.

But once the \$80,000 machine was

acquired the forest service said it had no budget to pay for its operations and it began to appeal to the private sector and other public entities to pay for the machine to operate.

Many of the property owners, however, said they felt it was still the U.S.

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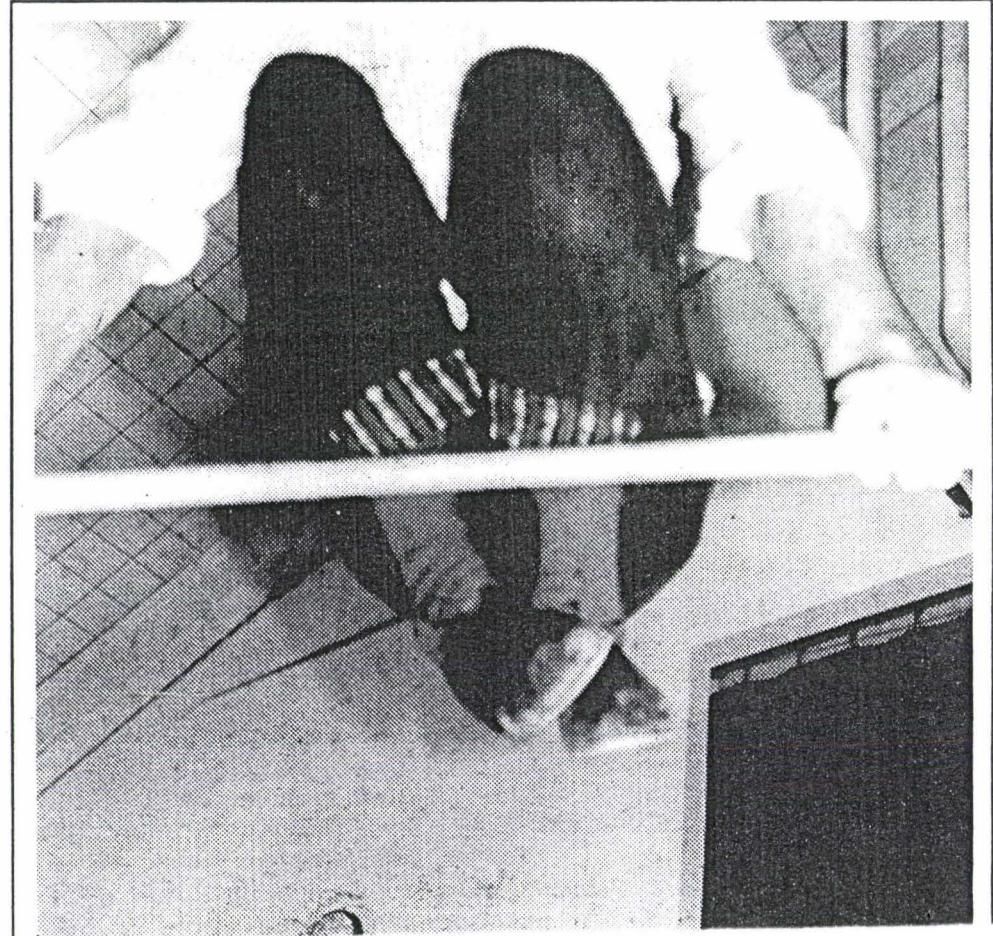
Sky ~ Hi News



Vol. 50, No. 25
Thursday, April 21, 1994
Granby, Colorado 80446
50 Cents

School board hopes for tax approval

Bus fundina



Weed harvester funding good for only 18 days of work

Continued from Page 1

Forest Service's responsibility to pay for operating the machine.

"The weed harvester will operate on the lake only as long as funding is available," states the 1994 weed harvester operating plan prepared by the forest service.

The Sulphur Ranger District has about \$3,000 available for 1994 only. When combined with \$700-\$1,500 expected from the Colorado Division of Wildlife (DOW), there only \$3,700 to \$4,500 available.

"If additional funds are not found for the harvester's operation, the harvester

will only operate on the lake until" the money available is spent.

The plan adds: "If funding is not found in future years for the weed harvester's operation, the harvester will not operate. Part of the funding for future years must come from non-Forest Service sources."

The plan states that expected costs for a full season of operation is between \$13,350 and \$19,700, plus depreciation.

The plan goes on to say that the harvester will be operated in 1994 to manage the aquatic weeds on the lake to preserve waterfowl habitat and improve boating.

Priority areas where the harvester will operate are public boat ramps, the Grand Lake channel (if possible), in front of Shadow Mountain Picnic Area and at marinas.

Sulphur District Ranger George Edwards said "We hope we can harvest for at least a month. If we get some additional funding, we'll go longer."

Grand County has set up a special fund for additional contributions. It's called the Grand County Shadow Mountain Lake Fund. Edwards said people may make checks out to the fund in that name.

"We'd really like to get donations

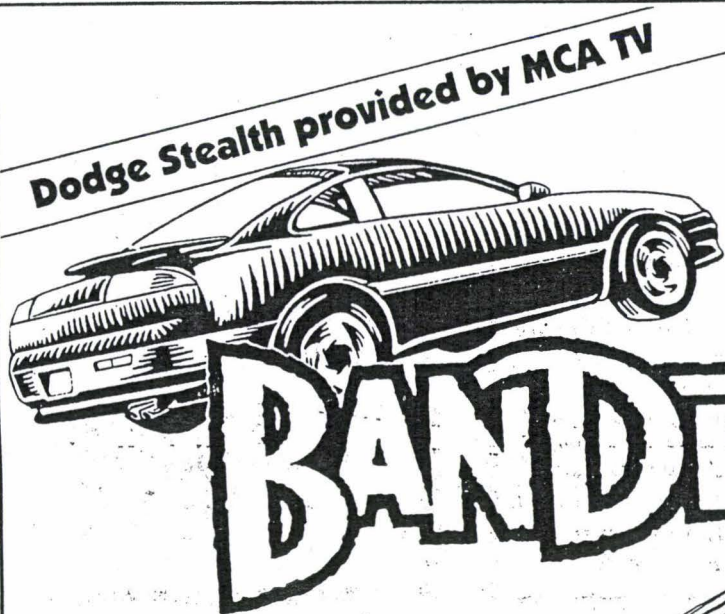
and money," Edwards said, mainly because the overall budget for his district was cut 20 percent for this year and he doesn't expect that funding situation to improve.

"We're not going to have a lot of money, anytime soon, in the budget," he said.

Another method of funding has been established through the placement of donation boxes at boat ramps, at the forest service office and in area businesses.

In exchange for donations to the fund Edwards said people will receive decals for boats or automobiles.

Granby Business Review



THE BANDIT'S BACK!

Big A's Got Him! And You Could Win A New Dodge Stealth!

Come into your nearest Big A Auto Parts store and enter to win a new Dodge Stealth. The same kind of car "The Bandit" drives in four exciting new action adventures that started on your TV screen in January.

- One winner drawn for a Big A stores.
- Drawing takes place on or before June 15
- All entries must be picked up by May 31
- Entrants must be a least 18 years of age

Appendix IV.

Appeal Letters

Three Lakes Communities Association

P. O. Box 421
Grand Lake, Colorado 80447

May 31, 1994

Mr. George S. Edwards
District Ranger
U. S. Forest Service
P. O. Box 10
Granby, CO 80446

Dear George:

Thank you for sending information on the Forest Service intentions regarding the Shadow Mountain weed harvester.

We have reviewed the seven page "1994 Aquatic Weed Harvester Operating Plan" and the ten page "Operation of an Aquatic Weed Harvester on Shadow Mountain Lake."

We also note that any appeal to your decision as outlined in the above documents must be filed by June 5.

The Board of Directors of the Three Lakes Communities Association has reviewed the operating plan for 1994. We are appealing your decision on the basis of the limited responsibility your office is assuming and the low priority your office is giving to the Shadow Mountain Lake weed problem.

We agree that there was and is a "severe aquatic weed problem ... that impaired all forms of recreation except hiking, hunting and watchable wildlife."

Draw downs did control the weeds in 1992 and 1993, but we feel there is a serious weed problem this year and by 1995 that problem will again greatly impair all forms of lake recreation.

Grand Lake is also affected by the weed growth in Shadow Mountain, with significant growth in shallow areas and floating clumps of weeds throughout the lake, also impairing lake recreation as water flow reverses in mid-summer.

The Bureau of Reclamation purchased a weed harvester for use by the Forest Service. It was the belief of those in our group that worked on the problem at the time of purchase that the Forest Service had committed to maintain and operate the harvester on Shadow Mountain Lake. The Forest Service operation plan for 1994, we believe, is a backing off from that commitment.

The plan very clearly states that the Forest Service will fund operation of the harvester for only 15 days this year which is a token operation and will have no significant effect on the weed problem. The plan appears to be an attempt to shift to the community the Forest Service responsibility for a major part of the weed harvester's operation this year. In addition, the statement, "If funding is not found in future years for the weed harvester's operation the harvester will not operate" seems intended to absolve the Forest Service of all responsibility for 1995 and future years.

We are concerned that, if the proposed operating plan is adopted without change, the Forest Service will have established the precedent that the citizens of the area and not the Forest Service are primarily responsible for the costs of operation of the weed harvester.

Community support was the essential factor in obtaining the weed harvester for the Forest Service in the first place. To now leave that expensive equipment sit idle for most of this year and completely idle in future years is fiscal folly. We are sure there would have been none of the community support that made possible the obtaining of the weed harvester, had it been known that the Forest Service would try to escape responsibility for its operation.

We acknowledge the fact that the Forest Service has limited funds and therefore must establish priorities for use of those funds. In that regard the Forest Service is no different than the vast majority of citizens and businesses in this community. We also feel that the Forest Service is giving insufficient priority to the weed problem and its effect on recreation. We are convinced the Forest Service can do better than its proposed maximum support this year of \$3,000 and its threat of no support for the future which seems inherent in the statement that "If funding is not found in future years for the weed harvester's operation the harvester will not operate."

In summary, we agree on the problem. We agree that full operation of the weed harvester is a significant part of the solution to the problem. We don't wish to concentrate on details, since we have such strong basic disagreement with the philosophical attitude taken by your office. To state it plainly, we heartily disagree with the Forest Service approach that disclaims most responsibility for full operation this year and seemingly all responsibility for future years.

We appeal your decision and ask for a change of philosophy on the part of the Forest Service so that it acknowledges full responsibility for the costs of the weed harvester operation. That action alone would make the community more cooperative and supportive. We also appeal your decision to provide only token support this year, convinced that the Forest Service can do better than that in 1994. We also appeal what appears to be your decision that, if the community does not raise funds in 1995, the weedeater will not operate.

Sincerely,

THE THREE LAKES COMMUNITIES
ASSOCIATION BOARD OF DIRECTORS



Gordon Scheer, President

copies: Rep. Scott McInnis
Sen. Hank Brown
Sen. Ben Nighthorse Campbell
Sky Hi News

SULPHUR DISTRICT	
JUN 01 1994	
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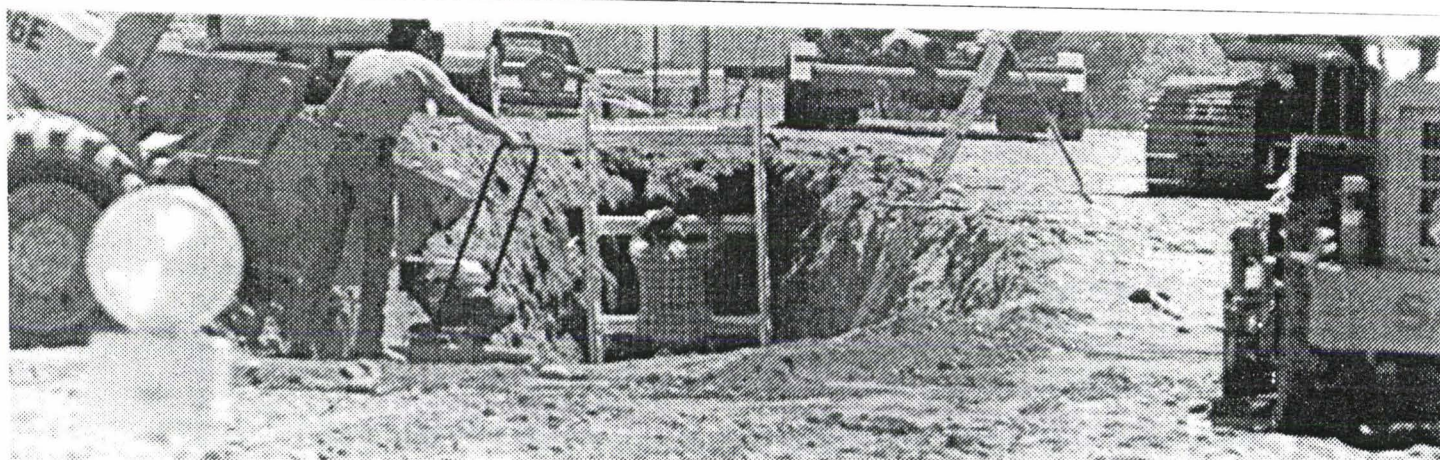
arate items to be voted on.

The other is a single general fund issue ballot stating one amount addressing all needs. In addition to this, they are suggesting that a bond issue also run concurrently on the ballot to fund the Granby Elementary school building. The school board heard presentations from both sides.

The multi-issue ballot committee, represented by Lynne Young, feels the best and most successful way to finance the school district for the immediate future is through the individual ballot questions. With the multi-issue ballot, they say, the all-or-nothing situation of the last election is being avoided.

Each issue under multi-issue has a chance of passage and this committee feels that the voters' trust will be greatly

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A Big Job

Summer time is also road work time throughout Grand County and especially in Granby. This year the town is replacing a water line and paving Diamond Avenue, with many other projects on tap. No major road work on state roads is planned for Grand County this summer until the fall, when work may begin on the widening of Highway 40 between Granby and Hot Sulphur Springs. (Photo by Patrick Brower)

Weedeater tiff looms in wake of groups' ire

by Patrick Brower

Two Grand Lake area citizen groups have come out against a limited, 15-day U.S. Forest Service operating plan for the Shadow Mountain Lake weed harvester.

The Three Lakes Communities Association, which consists of a variety of Grand Lake and Three Lakes area property owners, is appealing the forest service operating plan outlined in an April notice.

The Upper Colorado River Lakes Protection Association (UCRLPA), another alliance of Grand Lake area property owners that has been crucial in focusing attention on the weed problem, has also come out against the forest service plan.

In that forest service opinion and plan,

signed by Sulphur District Ranger George Edwards, the forest service said it could operate the weed harvester for only about 15 days this summer. It also committed a minimum of \$3,000 a summer to its operation following the summer of 1994.

Unless other funding sources could be found, the plan said the forest service could commit to only that amount.

"We are appealing your decision on the basis of the limited responsibility your office is assuming and the low priority your office is giving to the Shadow Mountain Lake weed problem," states a letter from Gordon Scheer, president of the Three Lakes Communities Association.

Stoddard White, a board member for

the UCRLPA, said the group backs the opposition voiced by the Three Lakes group.

"We certainly hope that the forest service responds positively, and if they don't, we're going to rattle their cage," White said.

He added that his group, and many other private individuals, went to extreme efforts in lobbying for the \$75,000 weed harvester that was given to the forest service for use on Shadow Mountain Lake.

He said that to have the forest service back out on the responsibility for funding the weed harvester, now that it has the equipment, was the ultimate in governmental folly.

While the forest service has acknowledged the weed problem in Shadow

Mountain Lake, it has continually said that it doesn't have sufficient funding in its budget to pay for the operation of the weed harvester.

It has called for other methods of finding operational funds — such as selling decals and finding other public or private money — to pay for the machine's operation.

Weeds growing in the shallow waters of Shadow Mountain Lake have caused considerable problems for people who want to recreate on the lake. Boats became mired in the weeds, inhibiting marina operations. Dead and dying weeds created a stench on the shores of the lake and the heavy congestion of the weeds

Continued on Page 10

June 9, 1994
Ski-High News

Effects on other lakes stressed by association

Continued from Page 1
inhibited fishing and fish population growth.

The Three Lakes Communities Association points out in its letter to the forest service that Shadow Mountain Lake isn't the only body of water affected by the weeds.

"Grand Lake is also affected by the weed growth in Shadow Mountain, with significant growth in shallow areas and floating clumps of weeds throughout the lake, also impairing lake recreation as water flow reverses in mid-summer," states the opposition letter.

The letter goes on:

"The Bureau of Reclamation pur-

chased a weed harvester for use by the Forest Service. It was the belief of those in our group that worked on the problem at the time of purchase that the forest service had committed to maintain and operate the harvester on Shadow Mountain Lake. The forest service operation plan for 1994, we believe, is a backing off from that commitment."

"The plan very clearly states that the forest service will fund operation of the harvester for only 15 days this year, which is a token operation and will have no significant effect on the weed problem," the Three Lake group's letter states.

The group states its concern that if the operating plan is adopted without change,

then the forest service will have established the precedent that the citizens of the area and not the forest service are primarily responsible for the costs of operating the weed harvester.

The group says it would be "fiscally" to let the weed harvester "sit idle" for most of the year.

In conclusion, the Three Lakes letter calls for "a change in philosophy" by the forest service so that it acknowledges "full responsibility" for the costs of the weed harvester operation.

"We also appeal your decision to provide only token support this year . . . We also appeal what appears to be your decision that, if the community does not raise

funds in 1995, the weed-eater will not operate."

Despite the appeal to his decision, Edwards said the forest service can't change its position.

"In the longterm we've got to have some help funding the machine if it's going to operate during the entire season when it's going to be the most effective," he said.

So far, in the efforts to solicit donations for weed-eater operations, Edwards said the county-sponsored weed-eater fund has received about \$500 in checks. Also, there are containers for volunteer donations at boat ramps and other areas around the lakes.

Granby Business Review

WIN FREE TICKETS TO BANDIMERE SPEEDWAY!

Come by Big A Auto to register for the drawing for Father's Day NHRA Winston Drag Racing.

Drawing to take place Tuesday, June 14

BANDIMERE SPEEDWAY

Morrison Colorado

Free Pit Passes for
Anyone Who Asks
at Big A Auto
Parts.

\$6.00
VALUE

Kim and I would like to express our heartfelt appreciation to Grand County Pet Pals and Pennie for Pups for all the work and assistance they have supplied to the welfare of the animals at the shelter and in the county.

Because of their concern and efforts, the Grand County Animal Shelter has

was able to meet others in our area and study for and become a certified Animal Control Officer for the state of Colorado. Without Pet Pals, this would not have been possible.

The efforts of these concerned individuals is deeply appreciated by both the Sheriff's Department and the Animal Shelter.

Honest, caring locals praised here by near victims

To the Editor:

never missed until we were returning to Denver.

Our friends apprehensively inquired at the ticket booth of Spirit Marina and to their surprise and our surprise some honest person turned it in!

We are very appreciative to the individual(s) who turned the camera in and Spirit Marina for its role, making it possible for us to retrieve our camera (and the memorable film inside)!

Bob and Ann Meyer
Denver

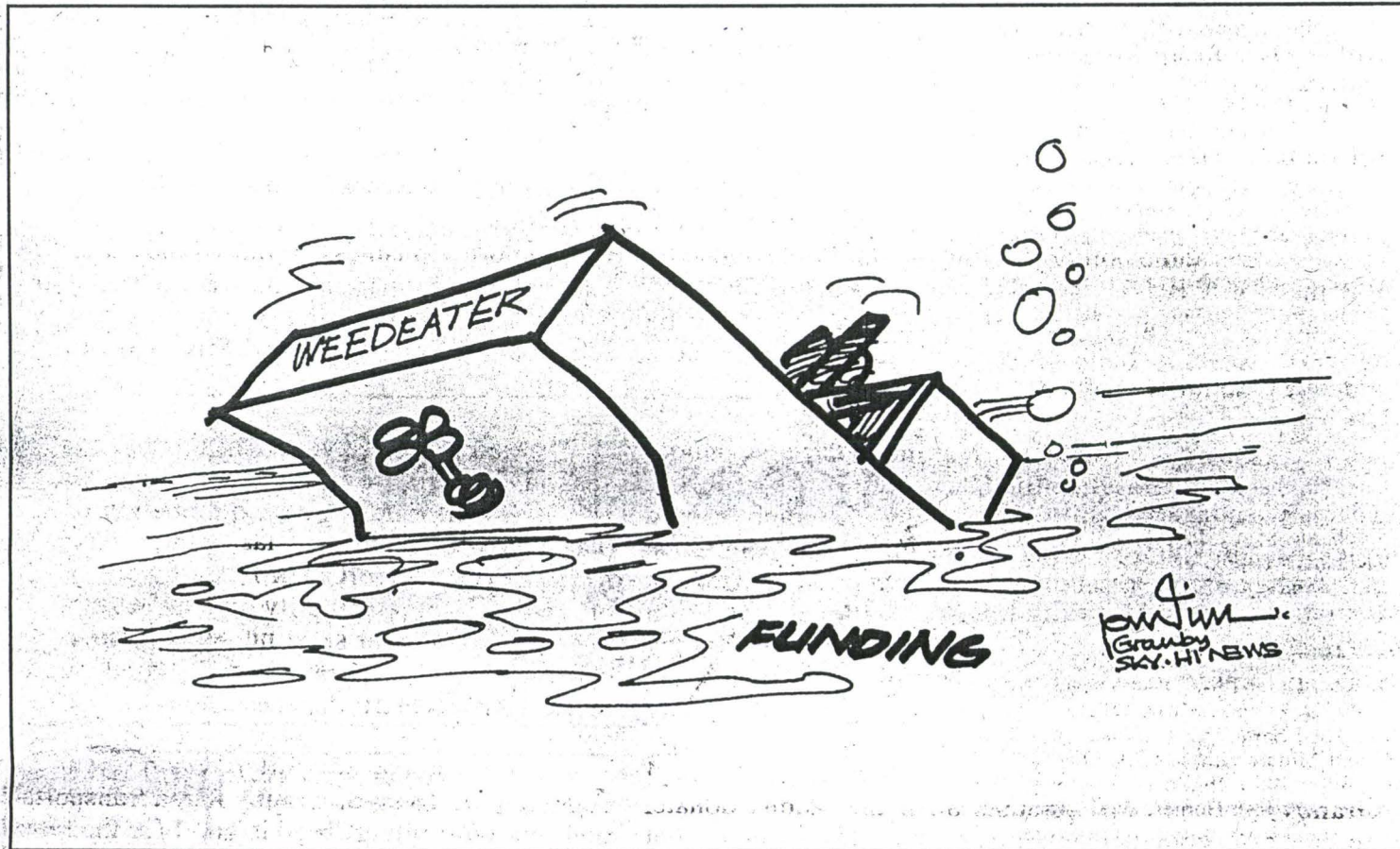
Columbine Lake's Rutherford clarifies

To the Editor:

I would like to comment on the statements made by Grand Lake Town Trustee Judy Burke, as printed in the May 26 Sky-Hi News and Grand Lake Prospector. This is in reference to the proposed annexation of Elk Creek Campground into the Town of Grand Lake and the controversy over the Columbine Lake water line.

1. Regarding "tying together Grand Lake's and Columbine Lake's water systems:" Ms. Burke apparently doesn't understand that the two systems are

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Signs of summer still stimulate goose bumps

Although it's been 12 years since I disposed of my Kremmling area dude ranch and moved to East Grand County, there are signs of the coming of summer to Grand Lake that continue to give me goose bumps.

Perhaps the first heartwarming omen that winter is behind us comes with that

By Cece Krewson



Crystal
Ball

likes rock 'n roll is that first step of the summer onto the dance floor at Grumpy's, where the even better-than-before sound of the No Name Band in its first 1994 appearance led me to comment to guitarist Sterling Powell that the group is living proof of my ongoing contention that "the older you get, the better you get."

the new bank, the Inn at Grand Lake and Aunt Chilada's.

Of course, there are some things sorely miss as the new season roll around.

I miss seeing Gordon Spitzmille sporting his double-billed baseball cap and hearing him dispensing words of

Weed Harvester Meeting

June 17, 1994

Meeting attendees: Gordon Shearer, Elwin Crabtree, Stoddard White, George Edwards, Roger Tarum, Rick Caissie, Cindy Southway.

Roger: Let's work this out here if possible.

George: The position quoted in the newspaper is that we will need to have private/public funding in order to operate the weed harvester.

What will it take for you to withdraw your appeal?

Gordon: The Forest Service is responsible to operate the weed harvester.

George: We are responsible to operate the weed harvester. We are committed to making this operation work, i.e. our effort with public meetings, donation tubes, advertisements in the paper.

Elwin: The Forest Service is responsible for the water quality and management of the NRA. The Forest Service is not taking their role in the project. (financially).

George: Priorities:

Recreation - keep campgrounds open.

Sanitation facilities.

Back country presence in other 300,000 acres.

The money only goes so far--we cannot commit running the weed harvester at the expense of the other recreation programs.

The reality of public/private partnerships is here. We cannot run our District without partnerships, especially projects that benefit a certain user group.

Stoddard: Change the wording of the documents to the positive.

George & Rick: Matching funds are easier for us to get. We are committed to management, but will not fully fund.

Roger: Funding priorities is not appealable.

The group is not in opposition to the EA or operating plan--only the funding.

Stoddard: The later in the season you operate the weed harvester, the more you get.

George: Change wording to positive, and take out the specifics about how much our commitment will be. Don't emphasize the amounts, just the how to.

Gordon: He wants the wording to be changed to full funding from the Forest Service.

George: The Forest Service is committed to operating the weed harvester during the efficient part of the season and this is how to: appropriate funding from Forest Service allocations and private/public contributions.

Rick: Help by working with Forest Planner, Howard Sargaent, to emphasize the importance of aquatic vegetation.

George: Depreciation will not be taken into account.

Stoddard: The draw-downs were very efficient. The harvester is only a treatment. Small marina next to Grand Lake Estates is the worst on the lake right now. The weeds should be treated when they are visible. We will not be able to treat the affected weeds to the scale that they will need.

Elwin: Farmers take their transports to the combine.

Rick: When you see problems, let us know.



United States
Department of
Agriculture

Forest
Service

Arapaho
National
Forest

Sulphur R. D.
P.O. Box 10
Granby, CO 80446

Reply To: 1950

Date: June 21, 1994

Gordon Scheer, President
Three Lakes Communities Association
P.O. Box 421
Grand Lake, CO 80447

Dear Gordon:

We were glad to meet with you, Stoddard and Elwin Friday afternoon, and I hope we resolved some of our disagreements concerning the operation of the weed harvester.

I agree that our operating plan did not make the point that the Forest Service was committed to operating the weed harvester and to ensuring that funding would be available to finance the machine's operation and maintenance. In fact, what we said could have been interpreted as being negative when our intent was to positively support the operation of the harvester.

I want to make it clear in this letter that the Forest Service is committed to operating the weed harvester, both this year and in subsequent years, for the life of the machine, and to operate it during the entire season that weed harvesting is efficient. The Forest Service will fund the operation by a combination of public and private funding sources. By having a combination of funding sources we can draw on, we can assure that funding will be available even in years when our District budget is low. Grand County has agreed to be the depository for contributed funds so that the money won't be tapped for overhead expenses or lost if it carries over from year to year. I would like to ask you to support this concept of combined private and public partnership to fund the harvester's operation.

I hope this answers your concerns. From our meeting, I understand that the actual Decision Notice was not what concerned you; we are all in agreement that the weed harvester should be operated in the manner described in the Decision Notice. I must also add that our budget priorities are not appealable as a part of this decision or any other decision.

If you agree with this restated philosophy and commitment I would appreciate a letter withdrawing your appeal. I assure you our goal is the same -- to have an efficient weed harvesting operation each year on Shadow Mountain Lake that will assure the enjoyment of recreationists for many years to come.

Sincerely,

GEORGE S. EDWARDS
District Ranger

cc: Stoddard White, Elwin Crabtree, Roger Tarum



United States
Department of
Agriculture

Forest
Service

Sulphur
Ranger
District

P.O. Box 10
Granby, CO
80446
303-387-3331

Reply to: 1950

Date: July 1, 1994

Gordon Scheer, President
Three Lakes Communities Assoc.
Post Office Box 421
Grand Lake, CO 80447

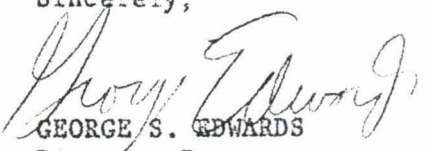
Dear Gordon:

In reference to my letter of June 21, 1994, you asked that I be more specific as to the funding of the operation of the weed harvester. As we discussed, the funding picture has changed somewhat since the environmental assesment and operating plan was written. We learned recently that approximately \$16,000 remains in the fund that was used to purchase the machine. We have been told that this money can be carried over into the next several fiscal years, and we pan to budget it over the next three (3) years.

With regular appropriated dollars in addition to this fund, we shoud have no problem funding the operation to the extent not covered by donations. For the next three (3) years, this might be as much as \$8,000 to \$10,000 a year. We hope that as time goes by, other sources will cover a larger portion of the total cost of funding the machine.

I hope this addresses your concerns. If I can be of further assistance, please feel free to contact me.

Sincerely,


GEORGE S. EDWARDS
District Ranger

Weed harvester appeal is withdrawn

by Patrick Brower

The appeal of the U.S. Forest Service's decision notice concerning operations of the Shadow Mountain Lake weed harvester has been withdrawn.

Two Grand Lake-area citizen groups had started to appeal the Forest Service's weed harvester decision notice because its plan for operations did not clearly state the federal agency's responsibility for operation of the harvester.

Last summer the U.S. Forest Service was given a \$70,000 weed harvesting machine that is capable of removing weeds from the bottom of Shadow Mountain Lake. Shadow Mountain Lake is located in the Arapaho National Recreation Area, which is under U.S. Forest Service jurisdiction.

The weeds in the shallow lake have created problems with boating and other recreation on the popular lake that adjoins Grand Lake, Colorado's largest natural lake.

The Forest Service received the harvester largely due to the efforts of two Grand Lake-area citizen groups that are committed to keeping Shadow Mountain Lake viable and preserving the value of the upper lakes in Grand County.

Those two groups are the Three Lakes

Communities Association and the Upper Colorado River Lakes Protection Association.

But ever since the Forest Service has received the weed harvester it has proclaimed that it has only limited funding to pay for its operation and maintenance. It has proposed public/private partnerships that utilize fund-raising, decal sales and other methods to supplement the meagre forest service funding for operating the harvester.

Grand County has even set up a separate weed harvester operations account that accepts money given to that cause.

The Forest Service's contention that it can't heavily fund the harvester has infuriated citizen groups who say the Forest Service should take responsibility for the lake and pay for the cost of removing the weeds.

The recent Decision Notice, which contained an operating plan for the machine, outlined expenditures by the Forest Service which would only cover about 15-20 days of operation of the weed harvester.

That got the attention of the citizen groups again.

But subsequent discussions between the Forest Service and the citizen groups

have, for the time being, allowed the Decision Notice to proceed without appeal.

A letter from Gordon Scheer, president of the Three Lake Communities Association Board of Directors, outlines the reason for that group's decision to withdraw its appeal.

He refers to the Forest Service's "statement of commitment to improving recreational conditions on Shadow Mountain Lake."

Of paramount concern to Scheer and others is that the Forest Service take responsibility for the problem. His letter states:

"Your statement that 'the Forest Service is committed to operating the weed harvester, both this year and in subsequent years, for the life of the machine, and to operate it during the entire season that weed harvesting is efficient,' clearly establishes the Forest Service responsibility for the weed cleanup of Shadow Mountain Lake."

The groups had been concerned that the Forest Service wasn't backing up its commitment with cash. But the recent meetings clarified that position also.

Scheer's letter goes on to say that "the Forest Service's willingness to back up

that statement of responsibility with funds to operate the weed harvester of up to \$10,000 a year for the next three years give credibility to your acceptance of responsibility."

So far this summer the harvester has been out on test runs although it has not actually harvested and removed any of the weeds. The planned operation time for the machine is set for late July and early August.

**Call local news to
887-3334**

Local Weather



Date	H	L	P
July 13	76	40	.00
July 14	76	38	.00
July 15	74	36	.05
July 16	67	36	.01
July 17	76	35	.02
July 18	78	40	.00
July 19	79	41	.00

Granby Reservoir Level
8,271.44
Maximum Level
8,280.00 feet

Granby-Jones water deal turned off

by Patrick Brower

At one point it looked as if the Town of Granby might supply the Granby Jones Mobile Home Park with town water.

But not anymore.

As of July 18 the Town of Granby has closed any discussion of supplying water to the trailer park located on the north-

the Granby Jones Trailer Park to the town system.

Over the course of a month it decided that the only way it could have assurances of being paid for the water would be if the park was annexed into the town.

Eight years ago the town was supplying the trailer park with water but finan-

"grandfathered" in with the non-conforming uses.

The park, as it exists now, doesn't meet the town's minimum lot size, setbacks and parking requirements.

Continued on page 16